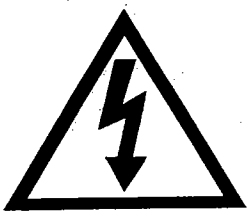
Emerson®

4HEAD REMOTE CONTROL VHS HQ VIDEO CASSETTE RECORDER WITH CENTER LOAD MECHANISM AND ON SCREEN PROGRAMMING

AFTER READING THIS OWNER'S MANUAL,
IF YOU ARE IN NEED OF ADDITIONAL
SET-UP OR OPERATING ASSISTANCE,
PLEASE CALL TOLL FREE
1-800-388-8333

OWNER'S MANUAL

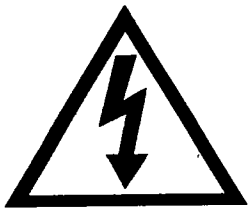
VCR4000



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: **To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.**

IMPORTANT SAFEGUARDS

1. **READ INSTRUCTIONS**
   All the safety and operating instructions should be read before the unit is operated.
2. **RETAIN INSTRUCTIONS**
   The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS**
   All warnings on the unit and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS**
   All operating and use instructions should be followed.
5. **CLEANING**
   Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **ATTACHMENTS**
   Do not use attachments not recommended by the unit's manufacturer as they may cause hazards.
7. **WATER AND MOISTURE**
   Do not use this unit near water-for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
8. **ACCESSORIES**
   Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

PORTABLE CART WARNING
(symbol provided by RETAC)

S3126A

8A.
An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. **VENTILATION**
   Slots and openings in the cabinet and in the back or bottom are provided for ventilation and to ensure reliable opration of the unit and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **POWER SOURCES**
    This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
11. **GROUNDING OR POLARIZATION**
    This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug, if your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This too is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet.
    Do not defeat the safety purpose of the grounding-type plug.

12. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. LIGHTNING

To protect your unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power-line surges.

14. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

15. OVERLOADING

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

18. SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power-supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the unit.
c. If the unit has been exposed to rain or water.
d. If the unit does not operate normally by following the operating instruction. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
e. If the unit has been dropped or the cabinet has been damaged.
f. When the unit exhibits a distinct change in performance-this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part.
Unauthorized substitutions may result in fire, electric shock or other hazards.

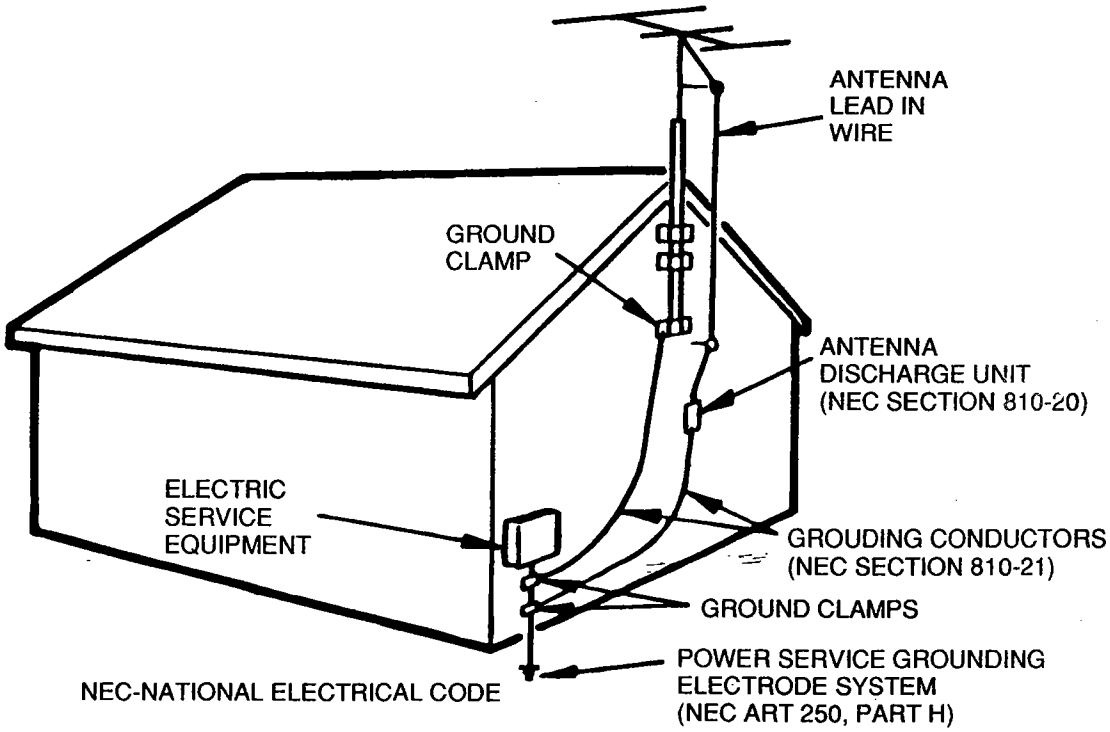
21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING AS PER
NATIONAL ELECTRICAL CODE



S2898A

FEATURES

High Quality Picture Technology - This Video cassette recorder marked "HQ" incorporates VHS high quality technology. A built-in detail enhancer is used to boost the recorded signal and provide maximum picture quality in playback. It is compatible with other VHS video cassette recorders.

Frequency Synthesized Tuning - Quartz locked direct access tuner automatically locks in each channel for perfect reception. No presetting or channel tuning adjustments are required.

4 Video Heads - Provides optimal picture quality for special effects playback.

Full Load Tape Transport - Permits rapid access between modes.

New Slim Style Compact Design -14 3/16"W × 3 3/8"H × 13 1/4"D.

4-Event/28-Day Programmable Timer with Everyday/Every Week Capability - The built-in timer allows automatic absentee recording of up to 4 TV programs within 28 days. It is also possible to record a program which is broadcast at the same time everyday or every week.

On-Screen Remote Control Programming - Timer recording can be programmed and confirmed on the TV screen with the remote control.

Simple Touch Programming - Press only 4 buttons to program timer recording.

Wireless Infrared Remote Control - The wireless infrared remote control allows operating the various functions from the comfort of your favorite viewing position.

181 Channel Capability - Receives standard VHF and UHF broadcast channels and up to 113 cable channels. The actual number of channels received depends upon channel reception in your area or your cable system.

One-Touch Timer Recording (OTR) - Simply by pressing the REC/OTR button, the VCR can be programmed for up to 4 hours of recording with an immediate start.

TV Monitor - When the TV MONITOR button on the remote control is pressed and held during playback, the TV channel selected on the VCR can be viewed.

Video Index Search System (VISS®) - The Index Search function automatically records INDEX marks on the tape whenever a recording is initiated. The target position can be located simply by engaging REW/Rev. Search or F.F/Fwd. Search.

Variable Speed Slow Motion - This VCR provides variable speed slow motion which offers steady, noise free playback at 1/5-1/30 normal speed.

Frame By Frame Advance - Press the SLOW button during still playback to advance the tape one frame at a time.

Skip Search - When the SKIP SEARCH button on the remote control is pressed during playback, the VCR will automatically search forward through approximately 30 seconds of tape with each press of the SKIP SEARCH button and then return to normal playback.

Automatic Power On - When loading a cassette tape, this VCR will automatically turn on.

Automatic Playback - When loading a cassette tape without the erase prevention tab, this VCR will automatically turn on and play back the cassette tape at the correct speed.

Automatic Rewind-Stop-Eject-Power Off - When a tape reaches its end during playback and recording, it will automatically stop, rewind, stop, eject the tape and the VCR will turn off.

Automatic Repeat Play System - When you press the REPEAT button, this VCR will automatically play back the same cassette tape repeatedly.

Digital Auto Tracking - Automatically adjusts tracking during playback for the best possible picture.

2 Speed Picture Search - 5 or 7 times normal speed in SP mode (7× or 13× in LP and 9× or 21× in EP).

3 Speed Record/Playback - Records and plays three tape speeds (SP, LP, EP).

Linear Time Tape Counter with Memory - The memory can be used to return the tape to a preselected position (0:00:00) while the counter can be used to locate programs.

Fluorescent Multi-Function Display - Selected functions are immediately indicated on the display.

Head Maintenance Indicator - An H will flash when the Video Heads require cleaning.

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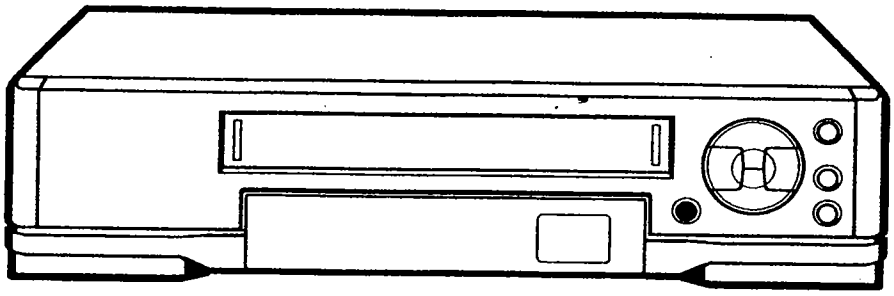
We recommend that you carefully read the descriptions and operating procedures contained in this Owner's Manual prior to operating your new VCR4000.



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PRECAUTIONS

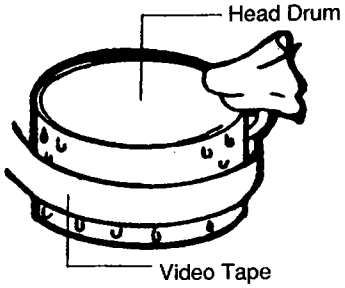
MOISTURE CONDENSATION

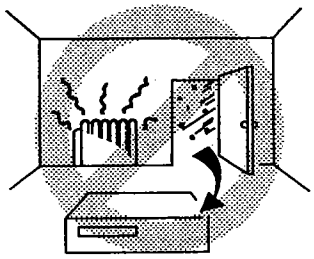
DO NOT OPERATE THIS VCR FOR AT LEAST TWO OR THREE HOURS WHEN MOISTURE IN THE AIR CONDENSES ON THE VCR.

■ WHAT IS MOISTURE CONDENSATION?
When a cold liquid is poured into a glass, for example, water vapor in the air will condense on the surface of the glass. This is called moisture condensation.

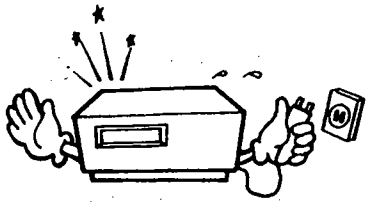
■ MOISTURE WILL CONDENSE ON THE UNIT IN THE FOLLOWING CASES;
- When you move this VCR from a cold to a warm place.
- After heating a cold room or under extremely humid conditions.

■ WHEN YOU EXPERIENCE THE ABOVE CONDITIONS,
Plug the power cord into an AC outlet, set the power switch to ON and leave the unit at room temperature until moisture condensation disappears.
Depending on the surrounding conditions, this may take two or three hours.

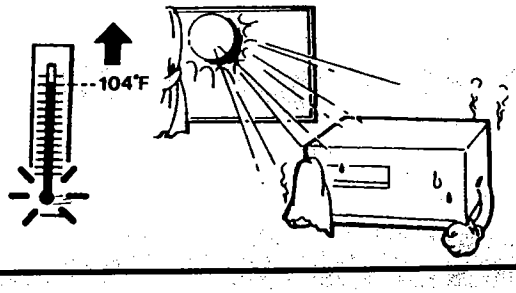




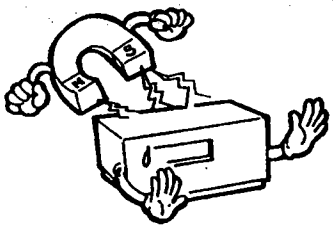
If you cause a static discharge when touching the VCR, and the VCR fails to function, simply unplug the unit from the wall outlet, wait a few minutes and plug it back in. The VCR should return to normal operation.



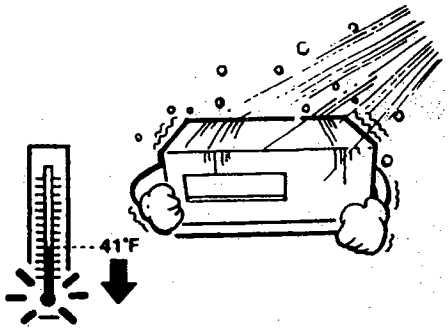
Avoid extreme heat.



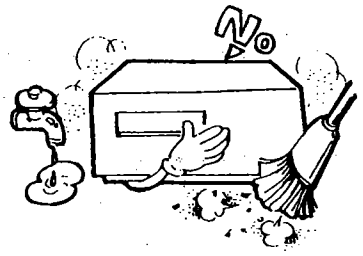
Do not place the VCR on or near appliances which may cause electromagnetic interference e.g. TV, speakers, etc. Doing so may cause erratic operation of the VCR including picture and/or sound distortion or noise.



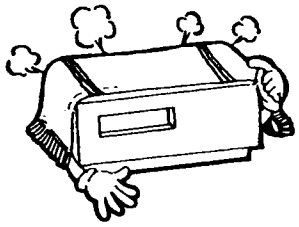
Avoid extreme cold.



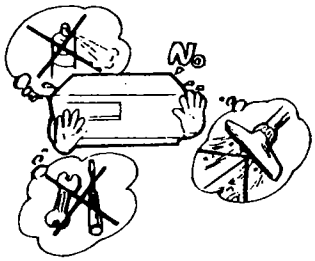
Avoid extreme moisture and dust.



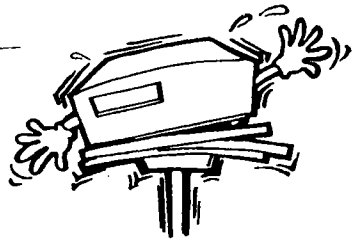
The ventilation holes prevent overheating. Do not block or cover these holes. Especially avoid covering the holes with soft materials such as cloth or paper.



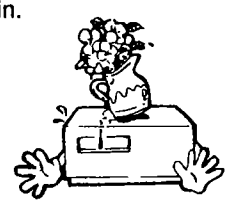
Do not insert fingers or any other objects into the cassette loading slot. Do not spray cleaner or wax directly on the VCR or use forced air to remove dust.



Avoid places subject to strong vibration. Use in a horizontal (flat) position only.

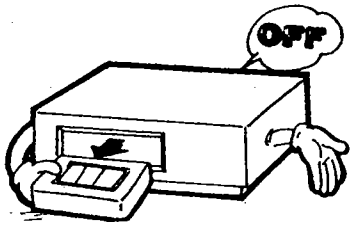


Keep the VCR away from flower vases, sink, etc. If liquids should be spilled into the VCR, serious damage will result. If you spill any liquids into the VCR, unplug the AC power cord immediately and consult qualified service personnel before attempting to use the VCR again.

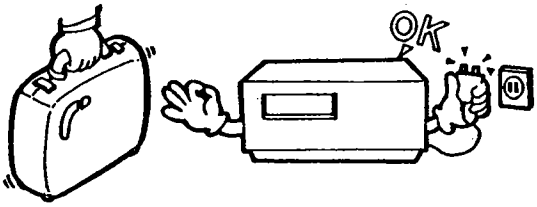


Emerson
AUTHORIZED
SERVICE

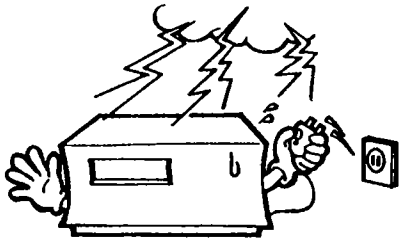
When you finish operating the VCR, always unload the cassette and turn off the power.



When you leave your home for a long time, unplug the AC power cord.

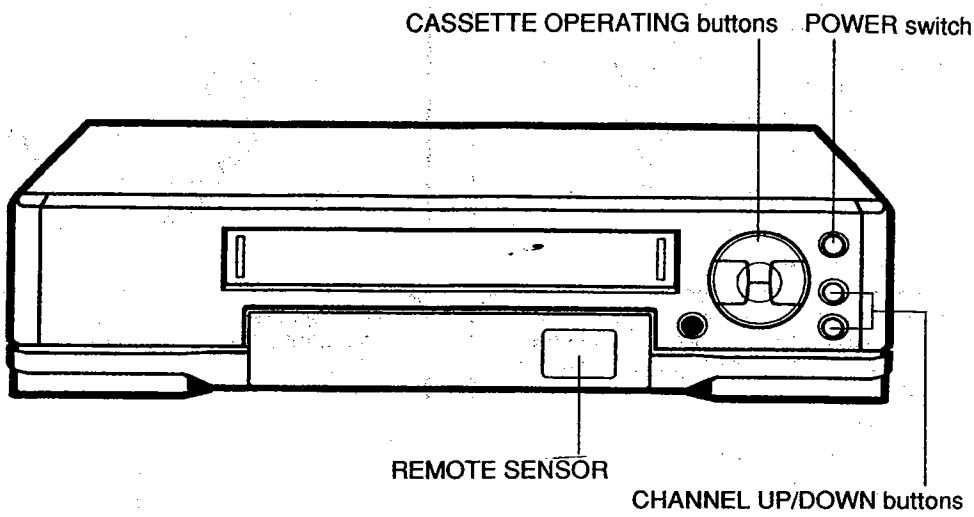


To protect the VCR during a lightning storm, unplug the AC power cord from the wall outlet. Do not touch the antenna leads.



LOCATION OF CONTROLS

FRONT



DESCRIPTION OF CONTROLS

CASSETTE OPERATING Buttons:

PLAY - Press to play a prerecorded tape.

STOP/EJECT - Press once to stop the tape in any mode. Press again (on the VCR) to eject the tape.

REW - In the STOP mode, this button rapidly winds the tape backwards. In the PLAY mode, this button activates Reverse Search.

F.F - In the STOP mode, this button rapidly winds the tape forward. In the PLAY mode, this button activates Forward Search.

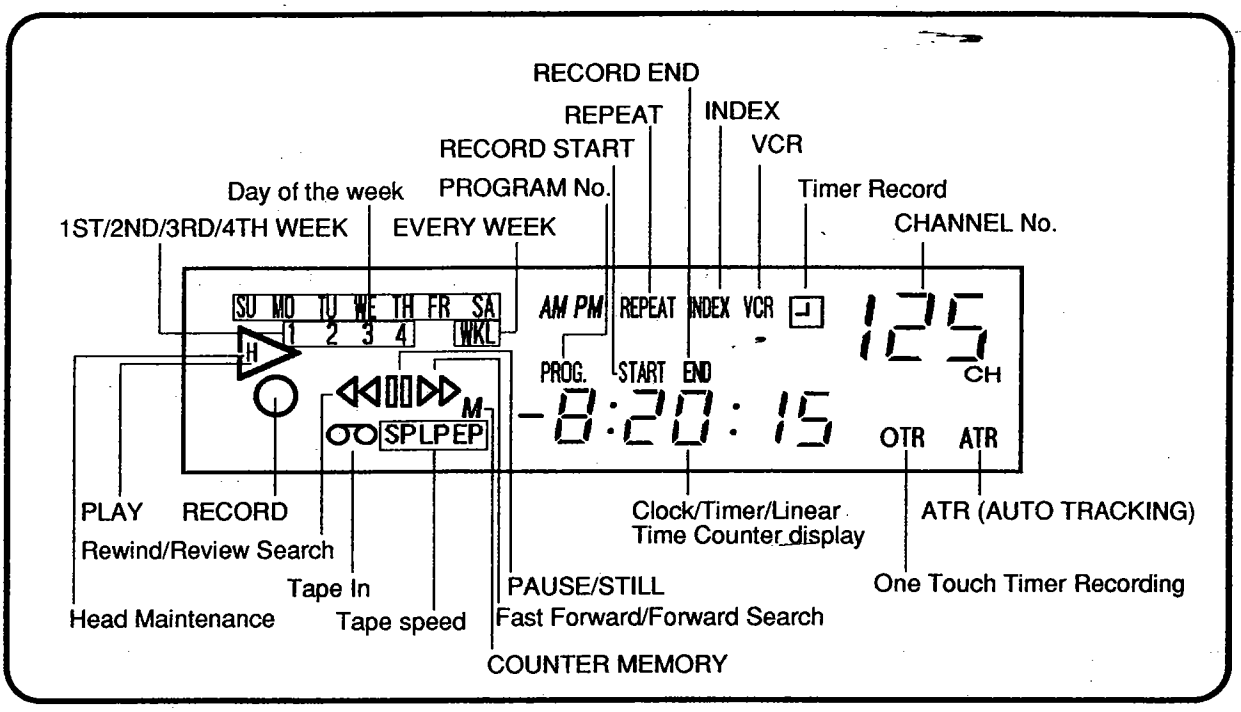
REC/OTR - Press once to start normal recording. Additional presses activate One Touch Recording.

POWER Switch - Turns the VCR power on and off.

CHANNEL UP/DOWN Buttons - Used to select a channel for viewing or recording.

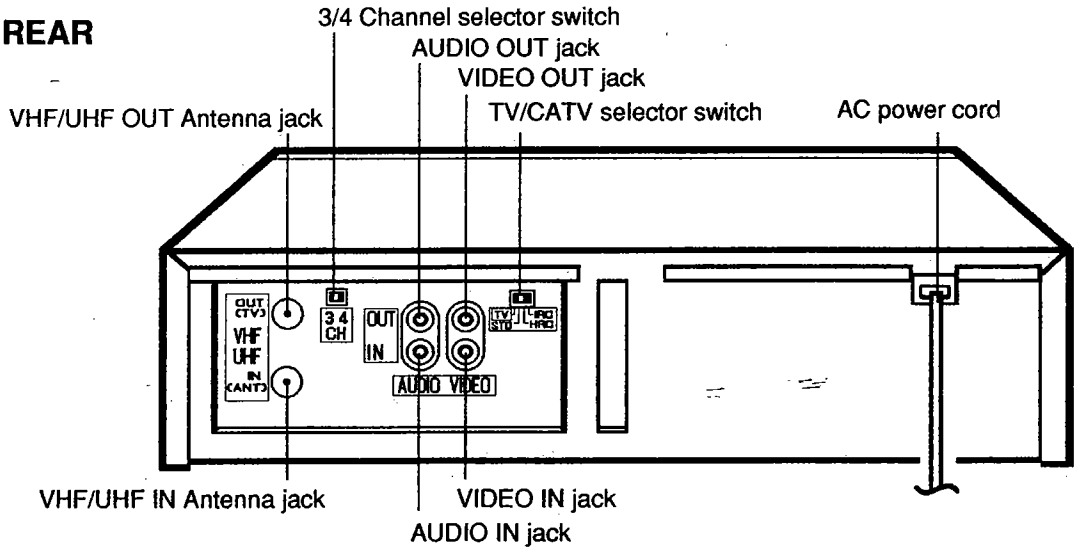
REMOTE SENSOR - Signals from the Remote Control are received here.

FLUORESCENT DISPLAY



LOCATION OF CONNECTORS

REAR



REAR PANEL CONNECTORS

VHF/UHF OUT Antenna Jack - Used to output VHF/UHF or CATV signals to a TV.

3/4 Channel Selector Switch - Selects the channel through which the VCR outputs its signal to a TV.

AUDIO/VIDEO Out Jacks - Used to output audio and video signals to a TV, amplifier or VCR.

TV/CATV Selector Switch - Selects antenna (TV) or one of three cable systems (STD, HRC, IRC).

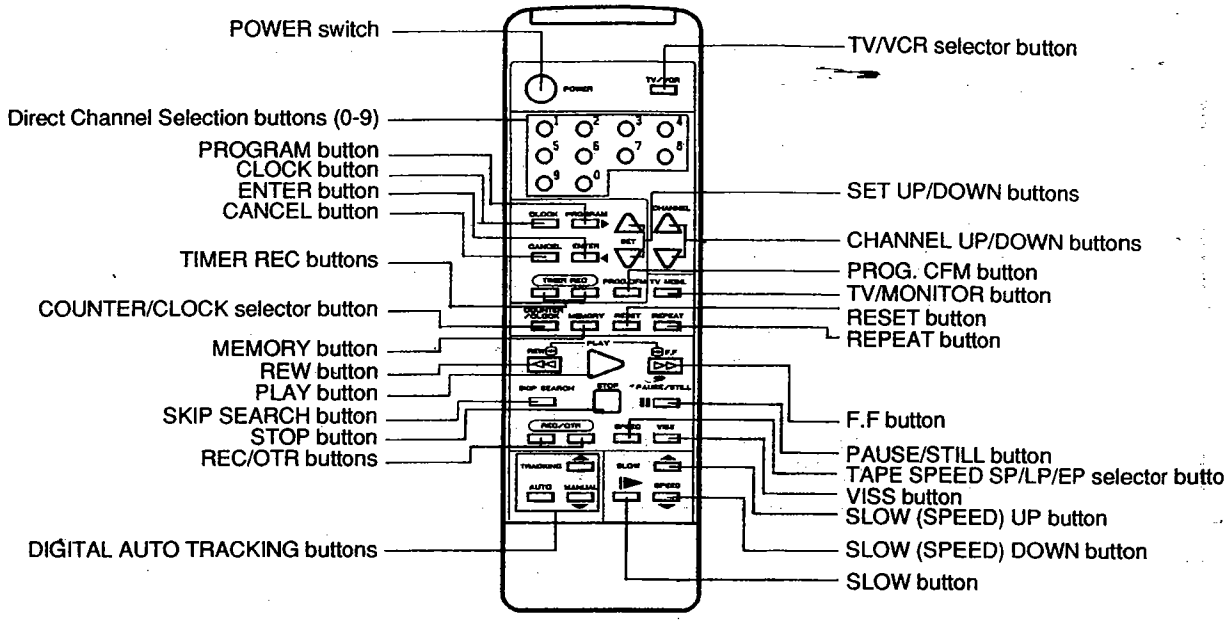
AC POWER CORD - Connect to a 120V 60Hz outlet.

AUDIO/VIDEO In Jacks - Audio and video signal cables from an external source can be connected here.

VHF/UHF IN Antenna Jack - Connect a VHF/UHF antenna or CATV cable to this jack.

WHEN SHIPPED FROM THE FACTORY, THE TV/CATV SELECTOR SWITCH IS IN THE "STD" (STANDARD) CABLE POSITION. IF NOT USING CATV (CABLE TV), SLIDE THIS SWITCH TO THE "TV" POSITION.

REMOTE CONTROL

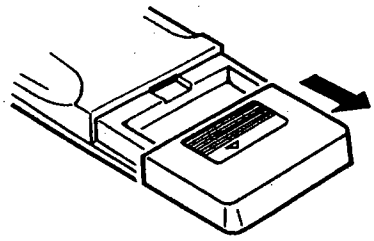


DESCRIPTION OF BUTTONS

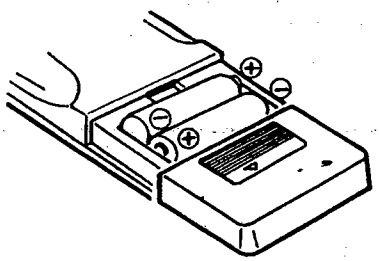
POWER switch - Turns the VCR power on and off.
Direct channel selection buttons (0-9) - Allows direct access to any channel.
PROGRAM button - Press to select a program for Timer Recording.
CLOCK button - Press to set the present time.
ENTER button - Used to enter information for timer recording and clock setting.
CANCEL button - Used to clear the selected timer recording program.
TIMER REC buttons - Used to set the VCR to start recording at a preset time.
COUNTER/CLOCK selector button - Switches between the clock and the linear time tape counter.
MEMORY button - Used to stop the tape when the counter reaches 0:00:00.
REW button - In the STOP mode, this button rapidly winds the tape backwards. In the PLAY mode, this button activates Reverse Search.
PLAY button - Press to play a prerecorded tape.
SKIP SEARCH button - Press once to change from the playback mode to the forward search mode for approximately 30 seconds.
STOP button - Press once to stop the tape.
REC/OTR buttons - Press once to start normal recording. Additional presses activate One-Touch Timer Recording.
DIGITAL AUTO TRACKING buttons - Allow automatic or manual adjustment of tracking to minimize picture noise during playback.
TV/VCR selector button - Switches between TV and VCR.
SET UP/DOWN buttons - Used to set the clock and timer recording.
CHANNEL UP/DOWN buttons - Used to select a channel for viewing or recording.
PROG. CFM button - Press to confirm the programmed timer recording.
TV MONITOR button - Used to temporarily view a TV channel selected on the VCR while in playback mode.
RESET button - Used to reset the Linear Time Counter to 0:00:00.
REPEAT button - When pressed, the VCR will play back the tape over and over until stopped manually.
F.F button - In the STOP mode, this button rapidly winds the tape forward. In the PLAY mode, this button activates Forward Search.
PAUSE/STILL button - During recording, this button temporarily stops the tape. During playback, it stops the tape and displays a still image on the TV screen.
TAPE SPEED SP/LP/EP selector button - Sets the tape speed for recording.
VISS® button - Used to search for the INDEX marks.
SLOW (SPEED) UP button - Press to speed up slow motion playback until it is 1/5 of normal speed playback.
SLOW (SPEED)DOWN button - Press to slow down the tape until it is 1/30 of normal speed playback.
SLOW button - Press to play back a tape in slow motion or to advance the tape one frame at a time during still playback.

BATTERY INSTALLATION

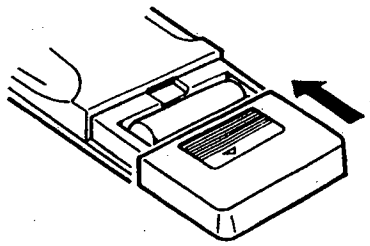
1 Open the battery compartment cover.



2 Install two "AAA" (penlight size) batteries (not supplied).



3 Replace the cover.

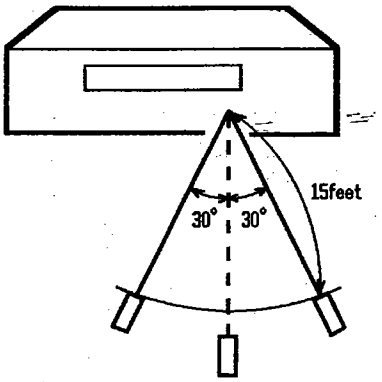


BATTERY CAUTIONS

BATTERY PRECAUTIONS
The precautions below should be followed when using batteries in this device:

1. Use only the size and type of batteries specified.
2. Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device.
3. Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
4. If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
5. Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer's directions).

EFFECTIVE DISTANCE OF THE REMOTE CONTROL TRANSMITTER



NOTE:
- When direct sunlight, an incandescent lamp, fluorescent lamp or any other strong light shines on the Remote Sensor, the remote operation may be unstable.
- When there is an obstacle between the VCR and the transmitter, the remote control transmitter may not operate.

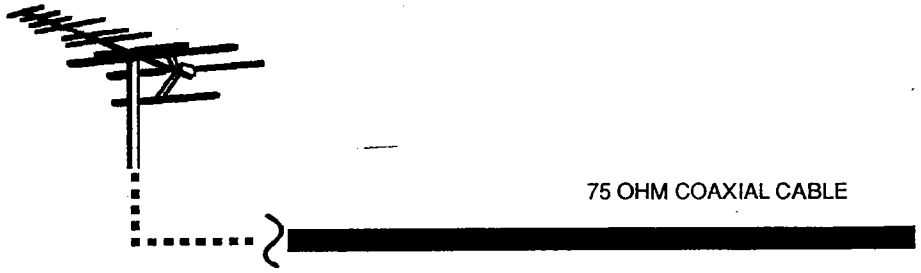
CONNECTIONS

If you are using an antenna system follow the instructions on pages 13-16. If you are a cable (CATV) subscriber, skip ahead to page 17 for the proper connections.

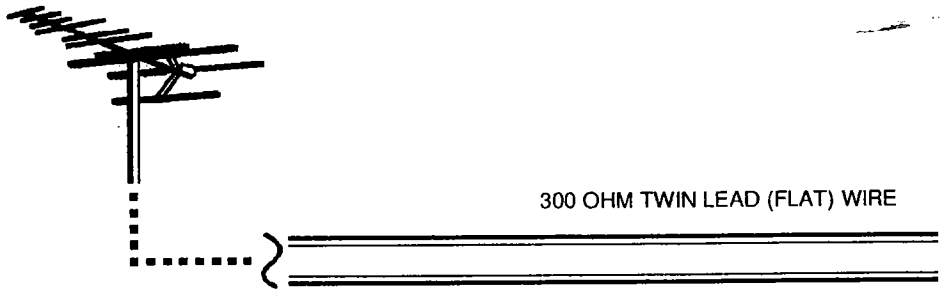
ANTENNA TO VCR CONNECTION

The VCR must be connected "between" the antenna and the TV. First, disconnect the antenna from the TV and connect it to the VCR. Then connect the VCR to the TV. Below are 3 common methods of connecting an antenna system to a VCR. Find the type of antenna system you are using and follow the connection diagram. After you have connected the antenna to the VCR, follow the instructions on pages 15-16 to connect the VCR to the TV.

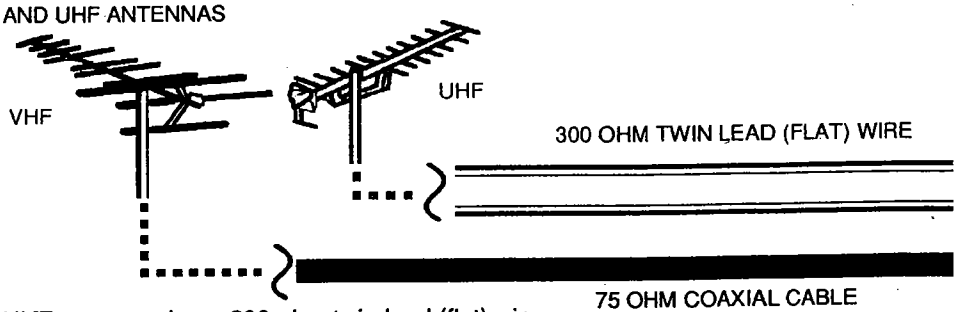
1 COMBINATION VHF/UHF ANTENNA WITH 75 OHM COAXIAL CABLE



2 COMBINATION VHF/UHF ANTENNA WITH 300 OHM TWIN LEAD (FLAT) WIRE



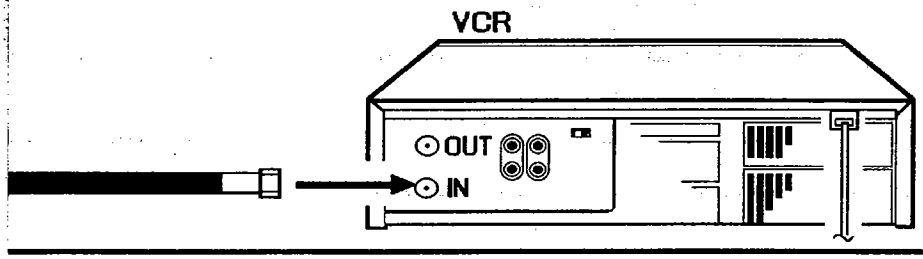
3 SEPARATE VHF AND UHF ANTENNAS



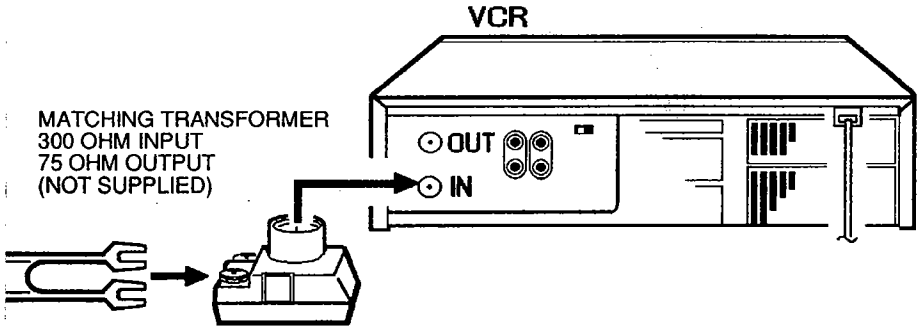
NOTE: If both VHF and UHF antennas have 300 ohm twin lead (flat) wire. use a combiner having two 300 ohm inputs and one 75 ohm output.

NOTE:
- A clear picture will not be obtained by the VCR unless the antenna signal is good. Connect the antenna to the VCR properly.
- For better quality recording, an indoor antenna or a telescopic antenna is not recommended. The use of an outdoor type antenna is required.
- If you are not sure about the connection, please refer to qualified service personnel.

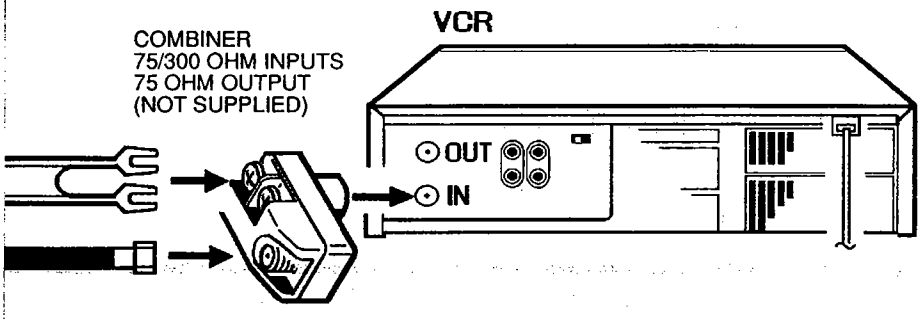
This VCR has a single 75 ohm antenna input for connection to an antenna (VHF/UHF) or cable (CATV) system. If you have separate VHF and UHF antennas (number 3 below), use a combiner to connect the antennas to the VCR.



NOTE: IF A VHF OR UHF ANTENNA IS USED,SET THE TV/ CATV SELECTOR SWITCH TO THE "TV" POSITION.



NOTE: IF A VHF OR UHF ANTENNA IS USED,SET THE TV/ CATV SELECTOR SWITCH TO THE "TV" POSITION.



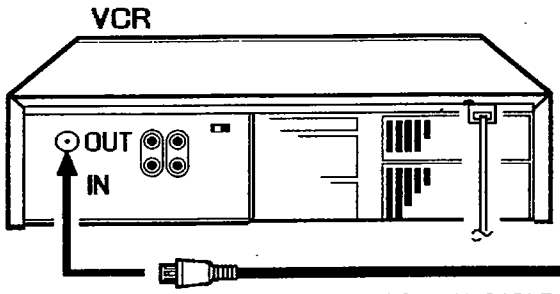
NOTE: IF A VHF OR UHF ANTENNA IS USED,SET THE TV/ CATV SELECTOR SWITCH TO THE "TV" POSITION.

CONNECTIONS (CONTINUED)

VCR TO TV CONNECTION

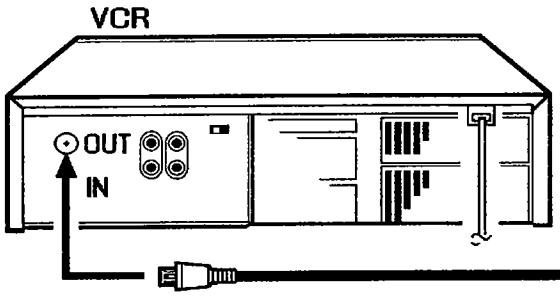
After you have connected the antenna to the VCR (see pages 13-14), you must connect the VCR to the TV. Below are 3 common methods of connecting your VCR to a TV. Find the type of TV you are using and follow the connection diagram.

1



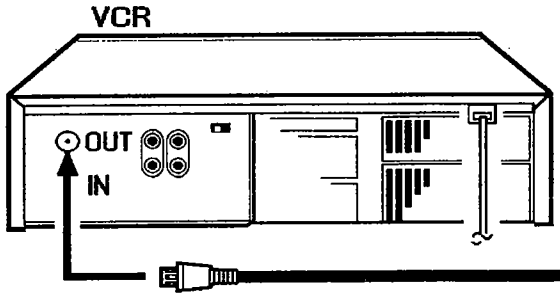
75 OHM COAXIAL CABLE (SUPPLIED)

2



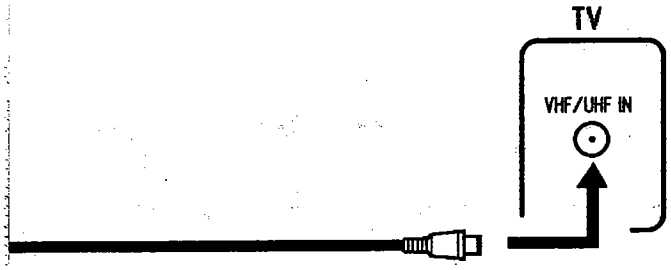
75 OHM COAXIAL CABLE (SUPPLIED)

3



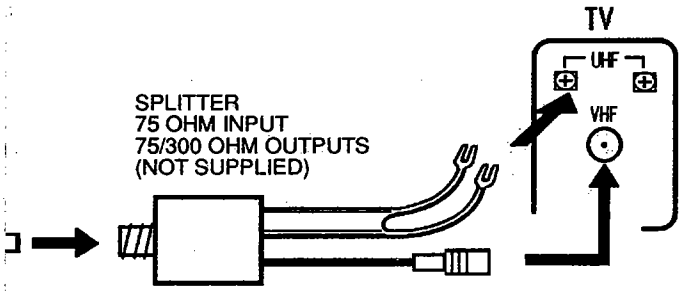
75 OHM COAXIAL CABLE (SUPPLIED)

This VCR has a single 75 ohm output for connection to a TV. If your TV has separate VHF and UHF antenna inputs (numbers 2 and 3 below), use a splitter to connect the VCR to the TV for VHF and UHF reception.



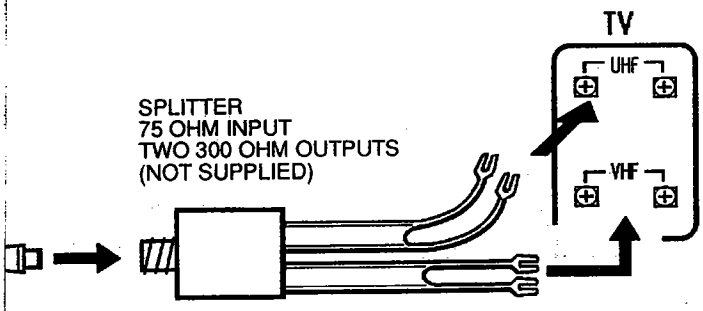
TV with single 75 ohm VHF/UHF antenna input

NOTE: IF A VHF OR UHF ANTENNA IS USED,SET THE TV/ CATV SELECTOR SWITCH TO THE "TV" POSITION.



TV with 300 ohm UHF and 75 ohm VHF antenna inputs

NOTE: IF A VHF OR UHF ANTENNA IS USED,SET THE TV/ CATV SELECTOR SWITCH TO THE "TV" POSITION.



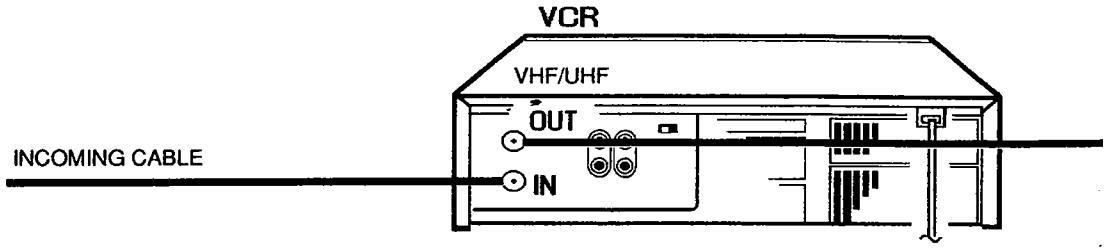
TV with 300 ohm UHF and 300 ohm VHF antenna inputs

NOTE: IF A VHF OR UHF ANTENNA IS USED,SET THE TV/ CATV SELECTOR SWITCH TO THE "TV" POSITION.

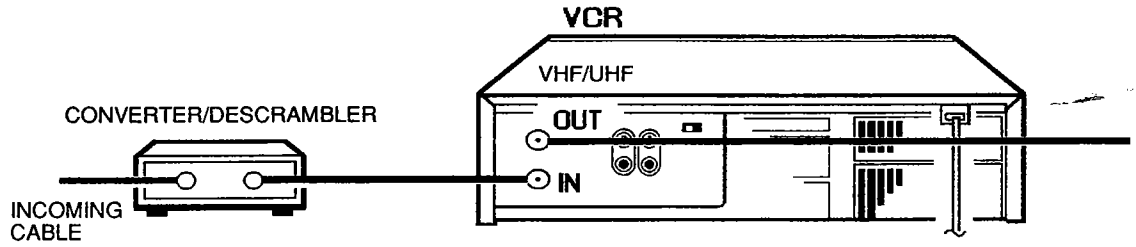
CONNECTIONS TO A CATV SYSTEM

Many cable companies offer services permitting reception of extra channels including pay or subscription channels. This VCR has an extended tuning range and can be tuned to most cable channels without using a cable company supplied converter box, except for those channels which are intentionally scrambled.
If you subscribe to a special channel which is scrambled, you must have a descrambler box for proper reception.

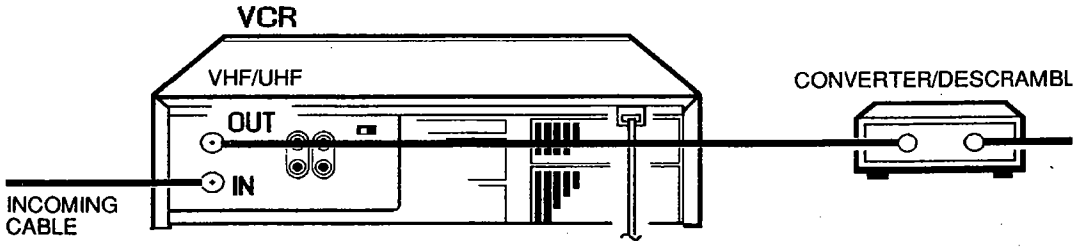
1 **IMPORTANT:** MAKE SURE THE TV/CATV SELECTOR SWITCH IS SET TO THE CORRECT CABLE SETTING. CONSULT YOUR CABLE COMPANY FOR THE CORRECT SETTING.



2 **IMPORTANT:** MAKE SURE THE TV/CATV SELECTOR SWITCH IS SET TO THE CORRECT CABLE SETTING. CONSULT YOUR CABLE COMPANY FOR THE CORRECT SETTING.

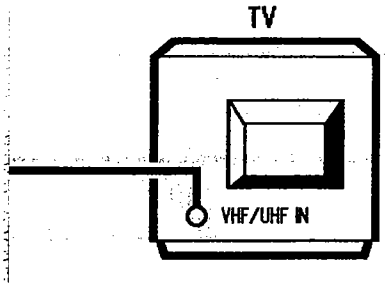


3 **IMPORTANT:** MAKE SURE THE TV/CATV SELECTOR SWITCH IS SET TO THE CORRECT CABLE SETTING. CONSULT YOUR CABLE COMPANY FOR THE CORRECT SETTING.

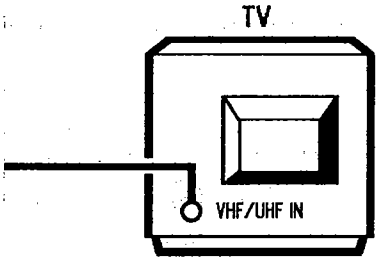


NOTE: WHENEVER A CONVERTER/DESCRAMBLER BOX IS PLACED BEFORE THE VCR YOU MUST TUNE THE VCR TO THE OUTPUT OF THE CONVERTER/DESCRAMBLER BOX, USUALLY CHANNEL 3 OR 4.

This VCR cannot receive scrambled programs since it does not contain a descrambler.
In order to receive scrambled programs your existing descrambler must be used.
Descrambler boxes are available from cable companies. Consult your local cable company for more information concerning connection to their descrambler equipment.
There are many ways to connect your VCR to a cable system. Below are six common methods of connection.



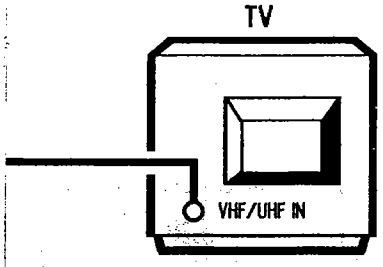
For basic cable service, no premium (scrambled) channels.
ALLOWS:
* Recording of nonscrambled channels.
* Use of the programmable timer.
* Recording of one channel while watching another.



ALLOWS:
* Recording of channels through the converter box (scrambled and unscrambled).
* Using the programmable timer to record only the channel selected at the converter box.

PREVENTS:
* Recording one channel while watching another.
* Using the VCR tuner to select channels.

NOTE:
To record from converter/descrambler, VCR tuner must be tuned to the converter output channel, usually channel 3 or 4.



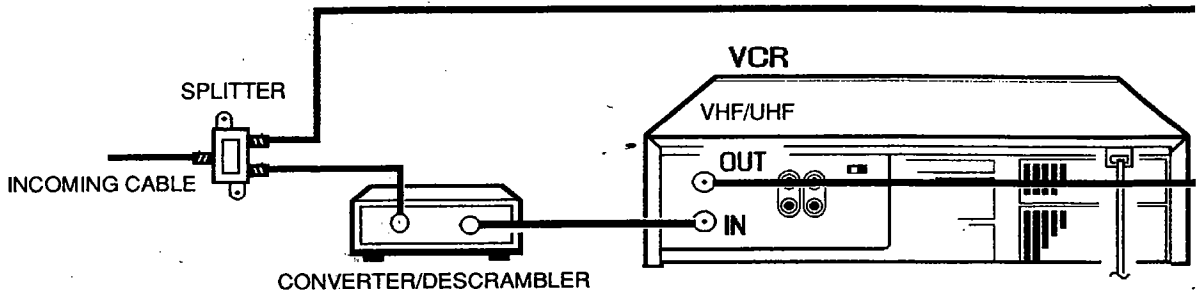
ALLOWS:
* Recording of unscrambled channels.
* Using the programmable timer.
* Recording an unscrambled channel while watching any channel selected at the converter box.

PREVENTS:
* Recording scrambled channels.

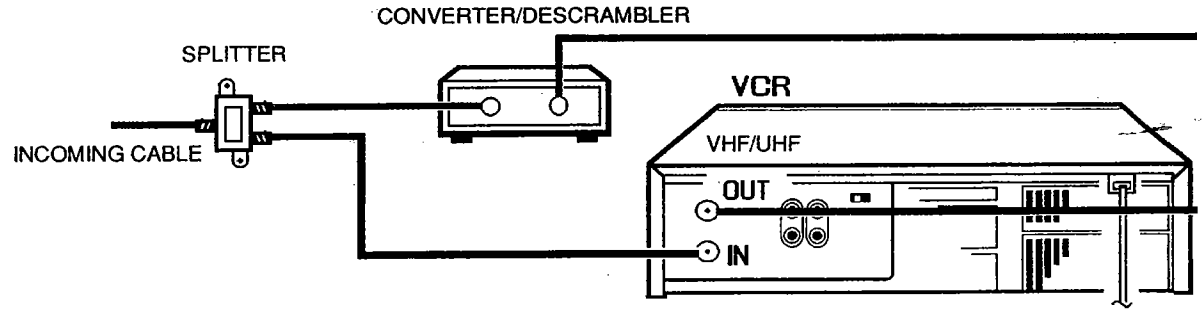
NOTE:
If you are playing a tape or using the tuner built into the VCR, the converter must be set to the video channel output of the VCR (either 3 or 4).

CONNECTIONS TO A CATV SYSTEM (CONTINUED)

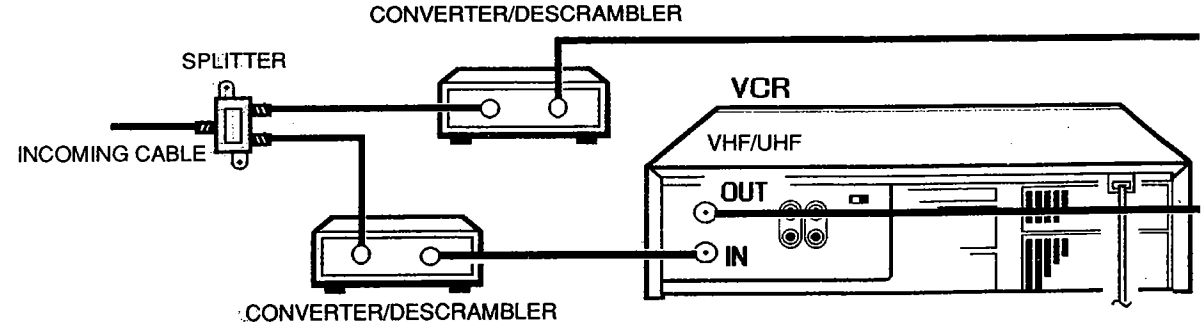
4 **IMPORTANT:** MAKE SURE THE TV/CATV SELECTOR SWITCH IS SET TO THE CORRECT CABLE SETTING. CONSULT YOUR CABLE COMPANY FOR THE CORRECT SETTING.



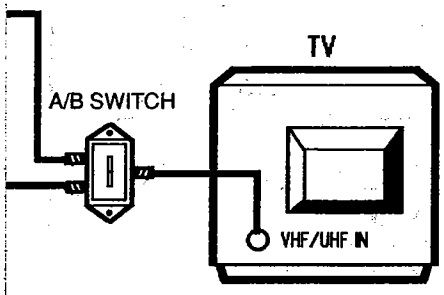
5 **IMPORTANT:** MAKE SURE THE TV/CATV SELECTOR SWITCH IS SET TO THE CORRECT CABLE SETTING. CONSULT YOUR CABLE COMPANY FOR THE CORRECT SETTING.



6 **IMPORTANT:** MAKE SURE THE TV/CATV SELECTOR SWITCH IS SET TO THE CORRECT CABLE SETTING. CONSULT YOUR CABLE COMPANY FOR THE CORRECT SETTING.



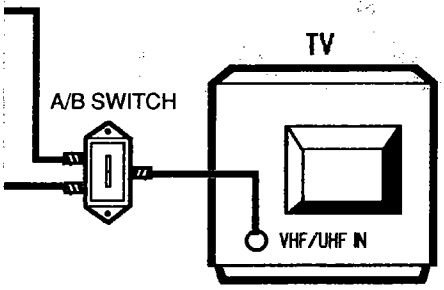
NOTE: WHENEVER A CONVERTER/DESCRAMBLER BOX IS PLACED BEFORE THE VCR YOU MUST TUNE THE VCR TO THE OUTPUT OF THE CONVERTER/DESCRAMBLER BOX, USUALLY CHANNEL 3 OR 4.



ALLOWS:
* Recording of all channels through the converter box.
* Recording of one channel while watching another.
* Using the programmable timer to record only the channel selected at the converter box.

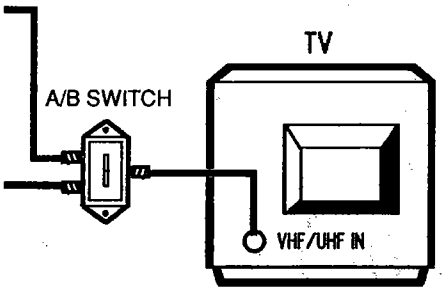
PREVENTS:
* Watching scrambled channels while recording another channel.
* Using the VCR tuner to select channels.

NOTE:
To record from converter/descrambler, VCR tuner must be tuned to the converter output channel, usually channel 3 or 4.



ALLOWS:
* Recording of nonscrambled channels.
* Recording of one channel while watching another.
* Watching premium channels through the converter while recording nonscrambled channels.
* Using the programmable timer.

PREVENTS:
* Recording scrambled channels.



ALLOWS:
* Recording of all channels through the converter box.
* Recording a scrambled or unscrambled channel while watching another (scrambled or unscrambled) channel.
* Using the programmable timer to record only the channel selected at the converter box.

PREVENTS:
* Using the VCR tuner to select channels.

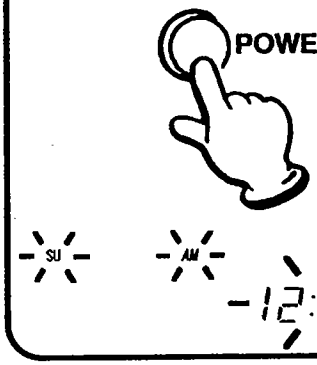
NOTE:
To record from converter/descrambler, VCR tuner must be tuned to the converter output channel, usually channel 3 or 4.

SETTING THE CLOCK TO THE PRESENT TIME

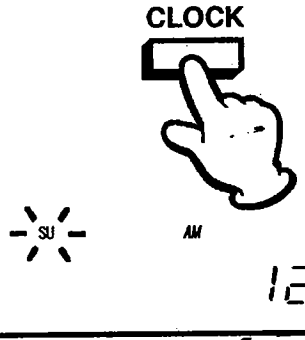
This clock is based on a 12-hour digital display. When the VCR is plugged in for the first time the "SU 12:00 AM" indicator will flash on and off.

EXAMPLE: Setting the clock to "WED 8:30 PM". (The present time is 8:29 on Wednesday evening.)

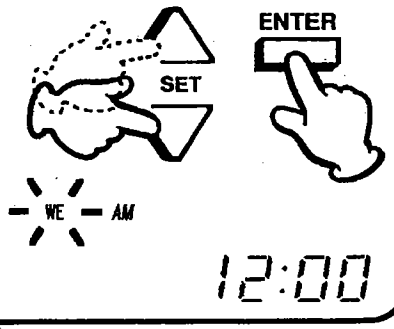
1 Turn ON the VCR POWER switch.

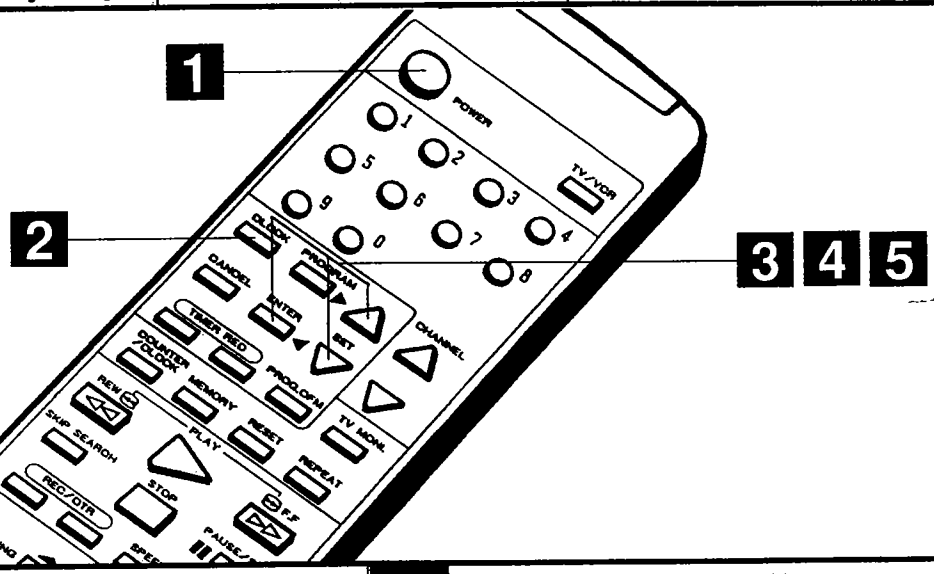


2 Press the CLOCK button.

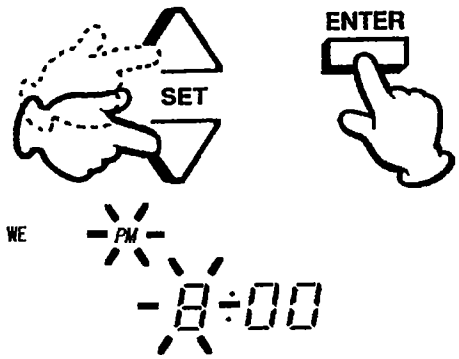


3 Press the SET UP or DOWN button to set the day of the week, then press the ENTER button.

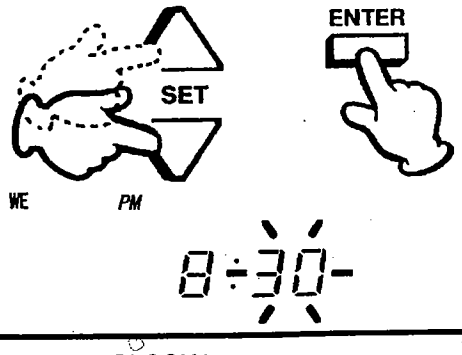




4 Press the SET UP or DOWN button to set the present hour, then press the ENTER button.



5 Press the SET UP or DOWN button to set the present minute, then press the ENTER button. The clock will begin operation and the colon will blink.

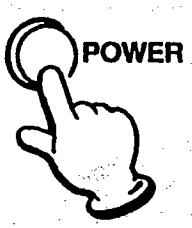


NOTE:
- To reset the clock, turn ON the POWER switch and press the CLOCK button. Then follow steps 1~5 above.
- After a power failure or disconnection of the power plug, the time display will be lost and will be indicated by the flashing 12:00 time display upon resumption of power. In this case reset the present time.

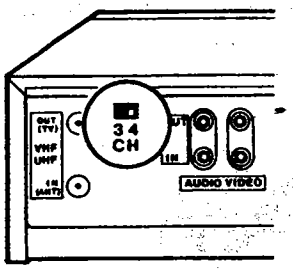
SETTING THE VIDEO CHANNEL

To view playback of a recorded tape, or to watch a program selected by the VCR's channel selector, the TV must be set to channel 3 or 4 (video channel).

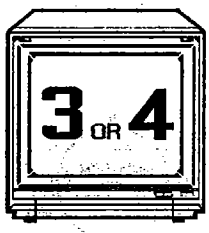
1 Turn ON the VCR POWER switch.



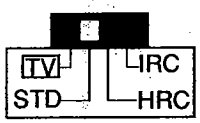
2 Set the 3/4 Channel selector switch to CH 3 or 4.



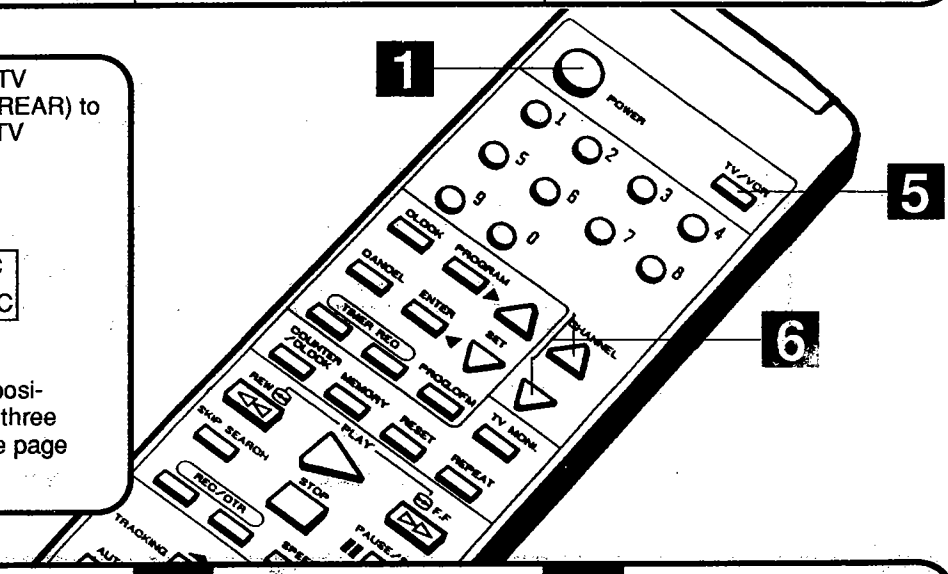
3 Turn ON the TV and set to CH 3 or 4 to correspond with the channel selected in 2.



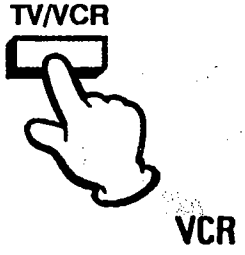
4 Slide the TV/CATV selector switch (REAR) to select TV or CATV operation.



NOTE:
This switch has four positions, one for TV and three for cable (CATV). See page 30 for details.

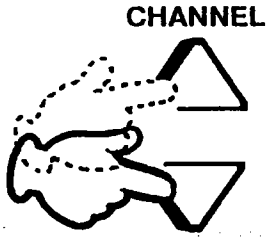


5 Press the TV/VCR selector button to select the VCR position.

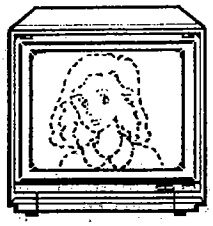


The VCR indicator will light.

6 Select any channel to receive a TV station in your area.



7 If the picture is not clear, check the TV fine tuning for the video channel used, 3 or 4.



For a push-button TV tuner
If CH 3 or 4, corresponding to the video channel cannot be tuned on your TV, proceed as follows: set the VCR 3/4 channel selector and the TV to CH 3 or 4, play back a prerecorded tape and tune the TV to receive a sharp color picture from the video cassette recorder. Refer to your TV owner's manual for details.

LOADING AND UNLOADING THE VIDEO CASSETTE TAPE

Use only video cassette tapes marked VHS.

LOADING

Push the center of the tape until it is automatically retracted.

AUTOMATIC POWER ON

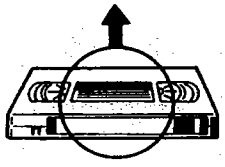
The VCR will turn on automatically and the TAPE IN indicator will light.

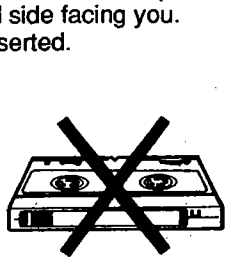
AUTOMATIC PLAY

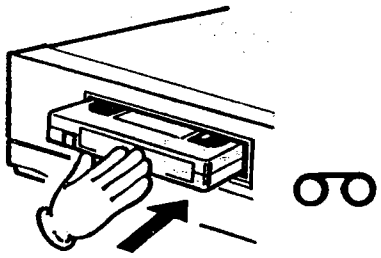
When loading a cassette tape without the erase prevention tab intact, playback will start immediately.

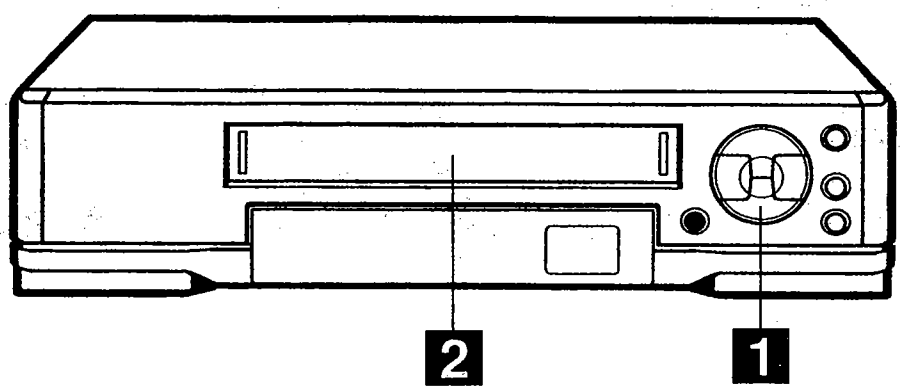
Insert the cassette with its labeled side facing you.

An inverted cassette cannot be inserted.



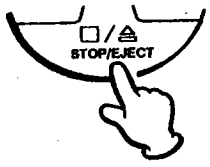






UNLOADING

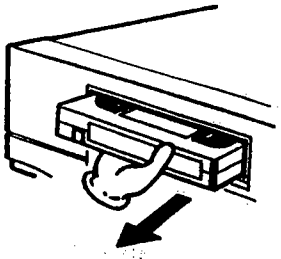
1 To unload a casstte, press the STOP/EJECT button on the VCR twice. The first press will stop the tape in any mode. The second press will eject the tape. The tape indicator ☍ will go off.



AUTOMATIC EJECT

If the VCR automatically rewinds the tape to the beginning (AUTO REWIND FEATURE), the tape will be ejected automatically (see the NOTE on page 30).

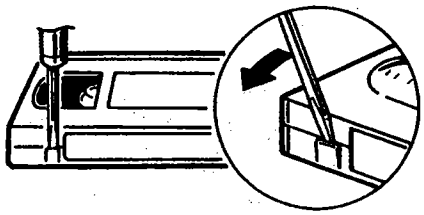
2 Pull the cassette out.



NOTE: ● Always eject the tape when not in use.
● The cassette can be ejected even if the POWER switch is "OFF".

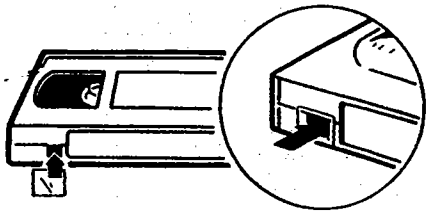
TO PREVENT ACCIDENTAL ERASURE

After recording, break off the erase prevention tab if you do not wish to record over the tape.



TO RECORD AGAIN

Cover the hole with vinyl tape.
Be careful the tape does not extend past the edges of the cassette housing.

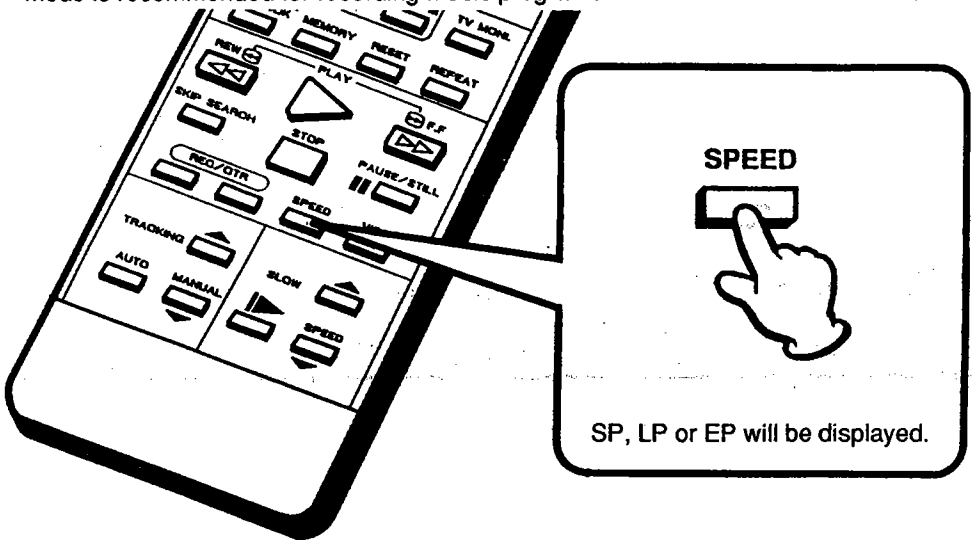


TAPE SPEED AND MAXIMUM RECORDING TIME

TAPE SPEED	VIDEO CASSETTE TAPE				
	T-160	T-120	T-90	T-60	T-30
SP (Standard Play)	2-2/3 hours	2 hours	1-1/2 hours	1 hour	30 minutes
LP (Long Play)	5-1/3 hours	4 hours	3 hours	2 hours	1 hour
EP (Extended Play)	8 hours	6 hours	4-1/2 hours	3 hours	1-1/2 hours

TAPE SPEED

- Press the TAPE SPEED selector button [SP (Standard Play), LP (Long Play) or EP (Extended Play)] to select recording speed. Speed selection is automatic during playback.
- The "SP" mode is recommended for recording music programs.

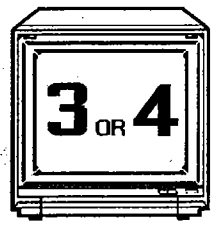


PLAYBACK

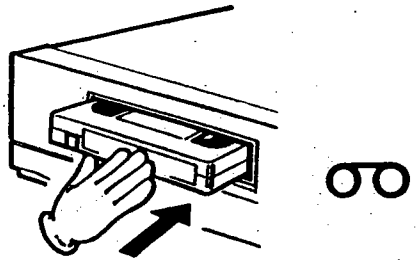
To play a prerecorded cassette tape.

TO START PLAYBACK

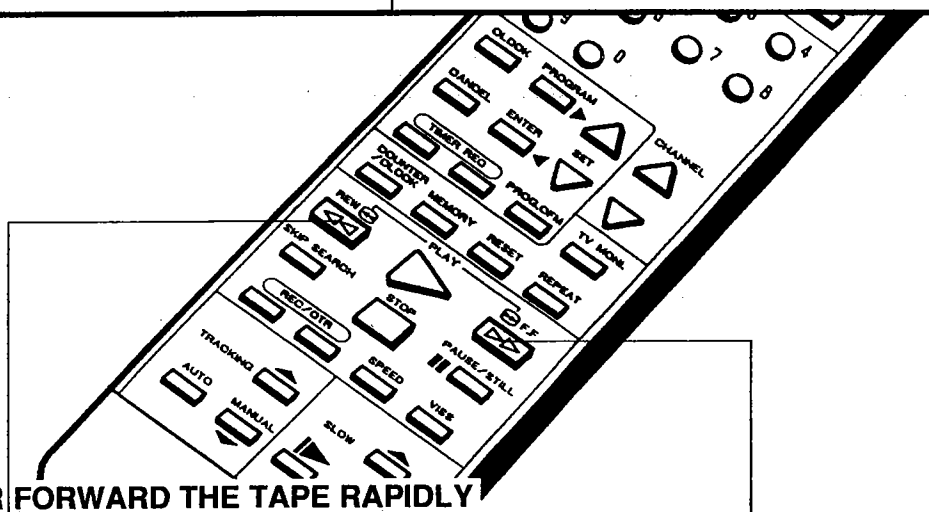
Turn ON the TV power switch and set the TV to the Video Channel 3 or 4.



1 Load a prerecorded tape. (When loading a cassette tape without the erase prevention tab, playback will start automatically.)

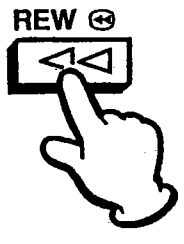


The TAPE IN indicator will light.



TO REWIND OR FORWARD THE TAPE RAPIDLY

Press the REW button in the STOP mode.



The REW indicator will light.

Press the F.F button in the STOP mode.

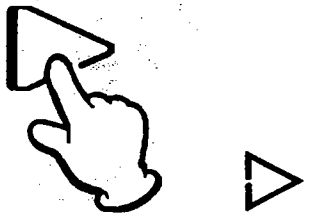
The F.F indicator will light.

NOTE: The tape program cannot be seen during REW or F.F modes.

TO STOP PLAYBACK

2 Press the PLAY button.
Playback will start.
The PLAY indicator will light.

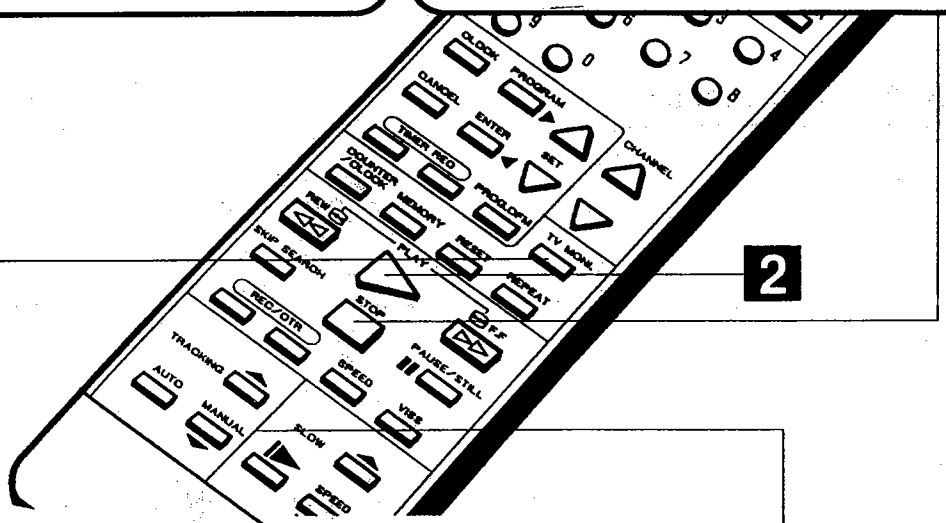
PLAY



It the H (Head Maintenance Indicator) flashes in the PLAY indicator, this means the video heads require cleaning. See page 49 for more information on head cleaning.

Press the STOP button once. The tape will stop but remain fully loaded and ready to play.

STOP



TO MONITOR A TV PROGRAM

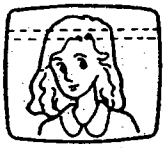
Press and hold the TV MONITOR button while in the playback mode. The video tape will continue to play while the picture switches to the TV channel selected on the VCR. Release the button to return to the playback picture.

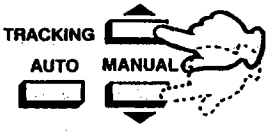
TV MONI.

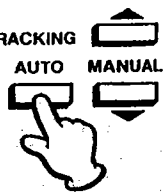
DIGITAL TRACKING CONTROLS

When a tape is played, the Digital Auto Tracking System automatically adjusts the tracking to obtain the best possible picture. The ATR indicator blinks while the system is searching for optimum tracking. The ATR indicator stops blinking and remains lit as long as automatic tracking continues.
If noise bars appear during playback, adjust the tracking manually;

- Press the MANUAL TRACKING UP or DOWN button (on the remote control) to obtain the best possible picture.
  To resume automatic tracking, press the AUTO TRACKING button.





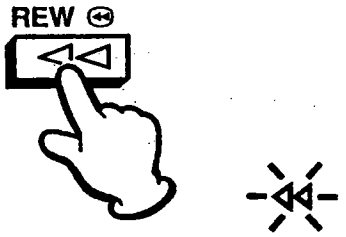


SPECIAL EFFECTS

TO VISUALLY SEARCH FOR DESIRED POINTS

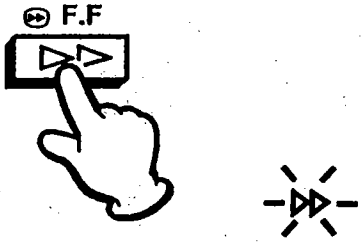
When either the F.F or REW button is pressed in the PLAYBACK mode, the speed search picture will appear. When pressed twice the search picture will increase speed. Speed search time depends upon the speed used (SP, LP or EP) during recording. See chart below.
To rewind or fast forward a tape, press the STOP button, and then press the REW or F.F button.

To visually search backward press the REW button once or twice in the PLAYBACK mode.



The REW indicator will flash.
Press the PLAY button to resume normal viewing speed.

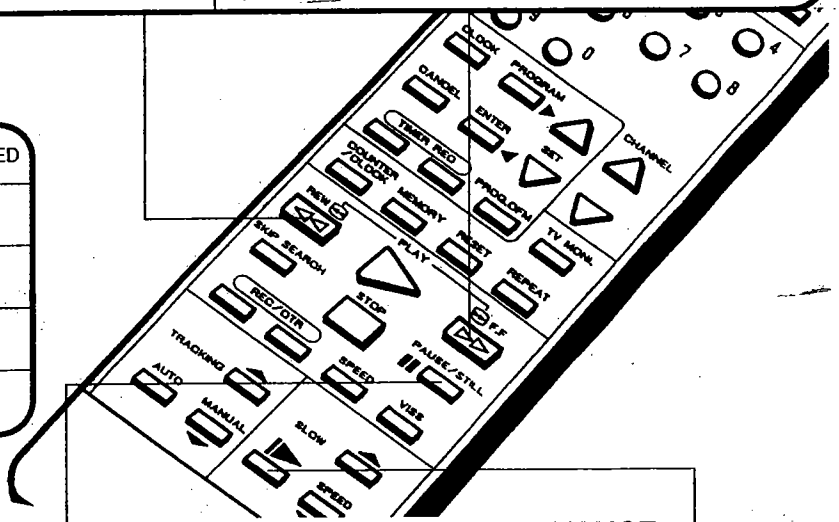
To visually search forward press the F.F button once or twice in the PLAYBACK mode.



The F.F indicator will flash.
Press the PLAY button to resume normal viewing speed.

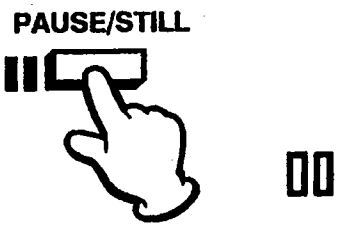
SPEED SEARCH TIMES

TAPE SPEED	PICTURE SEARCH SPEED	
	PRESS ONCE	PRESS TWICE
SP (Standard Play)	5X	7X
LP (Long Play)	7X	13X
EP (Extended Play)	9X	21X



TO WATCH A STILL PICTURE

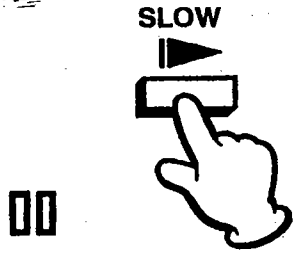
Press the PAUSE/STILL button in the PLAYBACK mode.



The double symbol ▯▯ will remain on the display as long as the VCR is in STILL mode.
Press the PAUSE/STILL button again to resume normal playback.

FRAME BY FRAME ADVANCE

Press the SLOW button during STILL playback.



The still picture will advance by one frame each time you press the button. Hold the button for continuous frame by frame viewing.
Press the PAUSE/STILL button again to resume normal playback.

NOTE:
- Best results during speed search playback can be obtained with cassette tapes recorded in the "SP" and "EP" mode.
- The audio output is muted during SPEED SEARCH and STILL.
- A few noise bars will appear on the picture during SPEED SEARCH and STILL.
- To prevent damage to the tape, STILL playback is automatically changed to the STOP mode after 5 minutes.

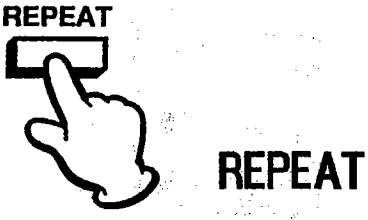
SKIP SEARCH

Press the SKIP SEARCH button in the PLAY mode. The VCR will search forward through approximately 30 seconds of tape (e.g. unwanted commercial time) for each press of the SKIP SEARCH button (maximum three presses) and then resume normal playback. The number of presses will appear on the display in place of the channel number.

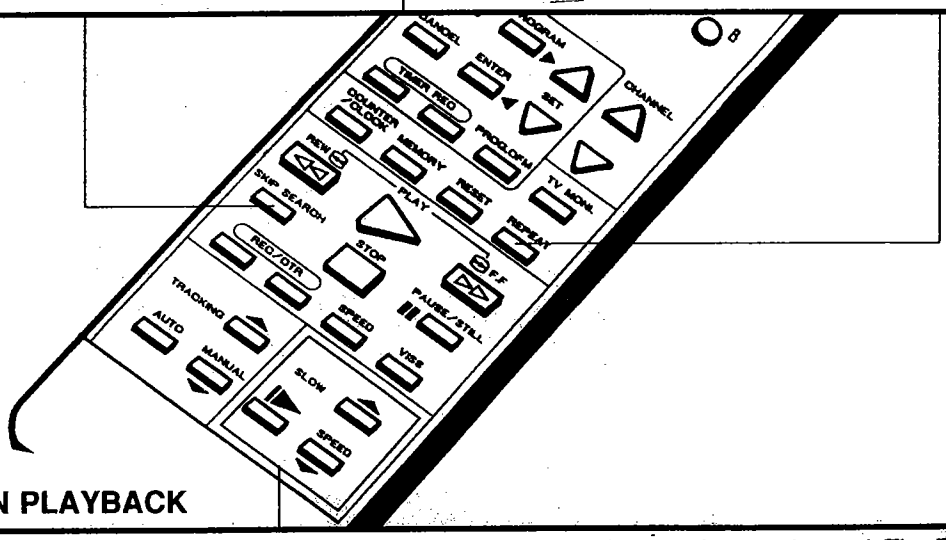
For example: 1 press: 30 seconds of tape.
2 presses: 60 seconds of tape.
3 presses: 90 seconds of tape.

TO WATCH A TAPE REPEATEDLY

Press the REPEAT button in the PLAY mode. The REPEAT indicator will light on the display and the tape will play over and over until the repeat mode is cancelled.

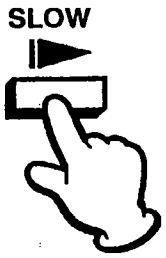


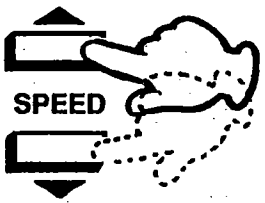
To cancel repeat mode, press this button again.

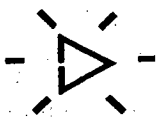


SLOW MOTION PLAYBACK

Press the SLOW button in the PLAYBACK mode. Playback will proceed at 1/10th normal speed. The PLAY indicator flashes. Slow motion speed can be changed by using the SLOW UP (▲) or DOWN (▼) button.
(▲)···Press to speed up slow motion playback up to 1/5th normal playback speed.
(▼)···Press to slow down slow motion playback down to 1/30th normal playback speed.







Press the PLAY button again to resume normal playback.

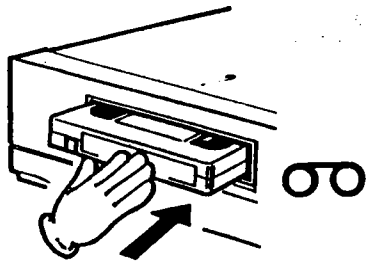
NOTE: SLOW TRACKING AND VERTICAL LOCK ADJUSTMENT
If noise bars appear in the picture during slow motion, press the MANUAL TRACKING buttons to reduce the noise bars.
If the still picture jitters excessively, press the MANUAL TRACKING buttons to stabilize the still picture.

RECORDING A TV PROGRAM

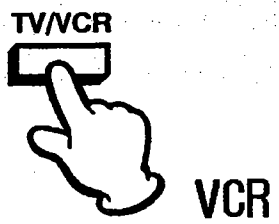
RECORDING AND VIEWING THE SAME TV PROGRAM

Turn on the TV power switch and set the TV to the Video Channel 3 or 4.

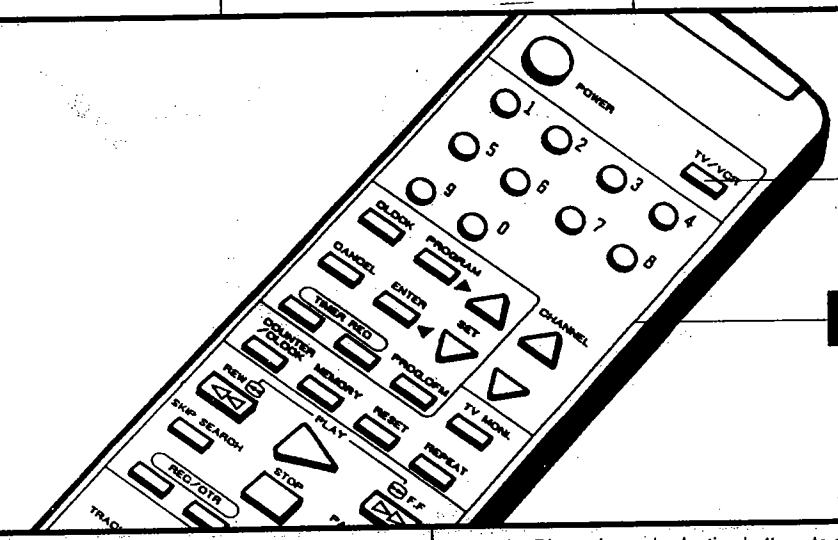
1 Load a cassette tape with the erase prevention tab intact. The VCR will automatically turn on and the TAPE IN indicator will light.



2 Press the TV/VCR selector button to select the VCR position.



The VCR indicator will light.

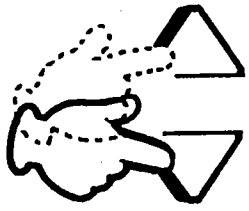


2

5

5 Press the CHANNEL UP (or DOWN) button to select the channel to be recorded.

CHANNEL

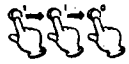


NOTE: Press the CHANNEL button to change channels one at a time. Press and hold the CHANNEL button to change channels in intervals of 10.

Press the Direct channel selection buttons to select the channel to be recorded.

To select channels

1-9	Press 0 twice and then 1-9 as required. (Example, to select 2, press 002.)
10-19	Press 0 first and then the remaining 2 digits in order from left to right. (Example, press 018 for 18.)
20-99	Press 2 digits in order. (Example, press 22 for 22.)
100-125	Press the 3 digits in order. (Example, press 110 for 110.)



NOTE:

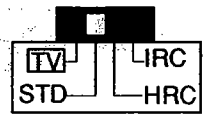
- When selecting a channel under 20, the following sequence will be shown on the display.
  Example, selecting channel 2:
  First press: 0: "--" appears in display.
  Second press: 0: "0-" appears in display.
  Third press: 2: "02" appears in display.
- For channels 1-19; if only 1 or 2 buttons are pressed, the corresponding channel will be selected in approximately 4 seconds.

NOTE: Since the VCR has its own TV tuner, it is not actually necessary to have the TV turned on in order to make a recording. Turning on the TV merely allows confirmation of the proper channel settings on your VCR.

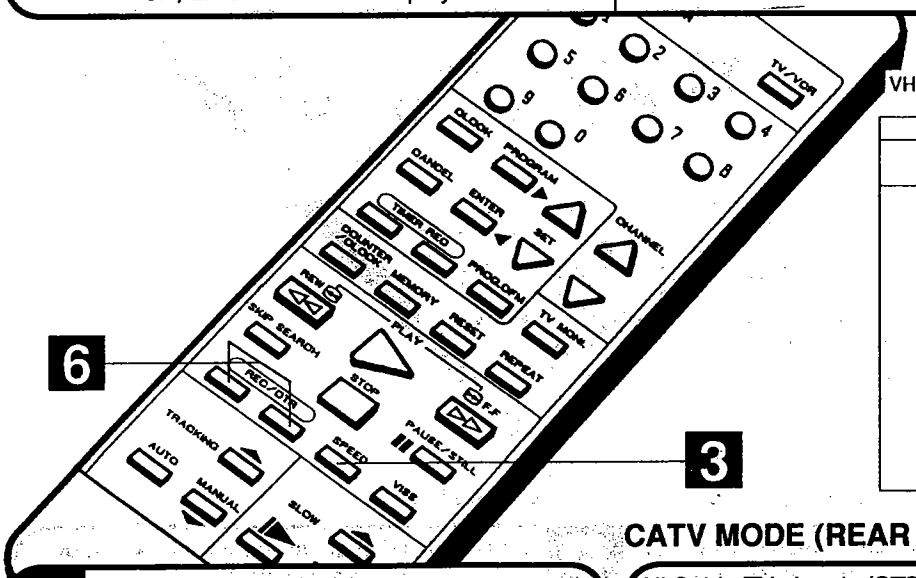
3 Press the TAPE SPEED selector button to select the desired tape speed SP, LP or EP. See page 24 for more information on tape usage.

SP, LP or EP will be displayed.

4 Slide the TV/CATV selector switch to select TV or CATV operation.



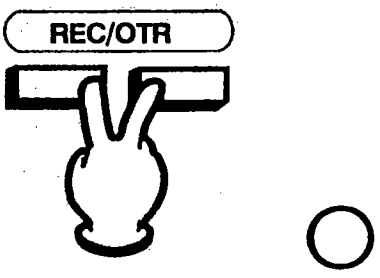
This switch has four positions, one for TV and three for cable. (CATV). See below for the correct CATV setting.



VHF/UHF/CATV CHANNELS

TV	CATV
VHF 2-13	VHF 2-13
UHF 14-69	STD/HRC/IRC 14-36 (A) (W) 37-59 (AA) (WW) 60-85 (AAA) (ZZZ) 86-94 (86) (94) 95-99 (A-5) (A-1) 100-125 (100) (125) 01 (5A)

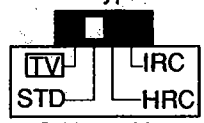
6 Press the REC/OTR buttons once.



The RECORD indicator will light.

CATV MODE (REAR OF THE VCR)

All Cable TV signals (STD, IRC and HRC) can be tuned in the "STD" (Standard) mode. However, if you are a Cable TV subscriber of HRC (Harmonic Related Carrier), set the TV/CATV selector switch to "HRC" position. This VCR will tune your desired channel faster than in "STD" mode.
If you are a Cable TV subscriber of IRC (Incremental Related Carrier), set the switch to "IRC" position. Contact your cable company to determine the number of channels and type of cable system used in your area.



This switch is in the STD position when shipped from the factory.

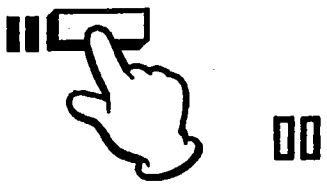
NOTE:
- AUTO REWIND FEATURE
  This VCR will automatically rewind the tape when the tape has ended (except during OTR and TIMER REC). It will also eject the tape and turn the unit's power OFF.
- ENSURE ALL CABLES FROM THE VIDEO IN AND AUDIO IN JACKS ON THE VCR ARE DISCONNECTED, OTHERWISE IT IS IMPOSSIBLE TO RECORD TV PROGRAMS.
- TV/CATV Selector Switch
  If some channels are received with no color, try setting the switch to another cable mode setting.

RECORDING A TV PROGRAM (CONTINUED)

TO STOP RECORDING TEMPORARILY

Press the PAUSE/STILL button to avoid recording unwanted material. Press again to continue the recording. The double bars (pause) symbol will be on display while the pause function is activated.

PAUSE/STILL

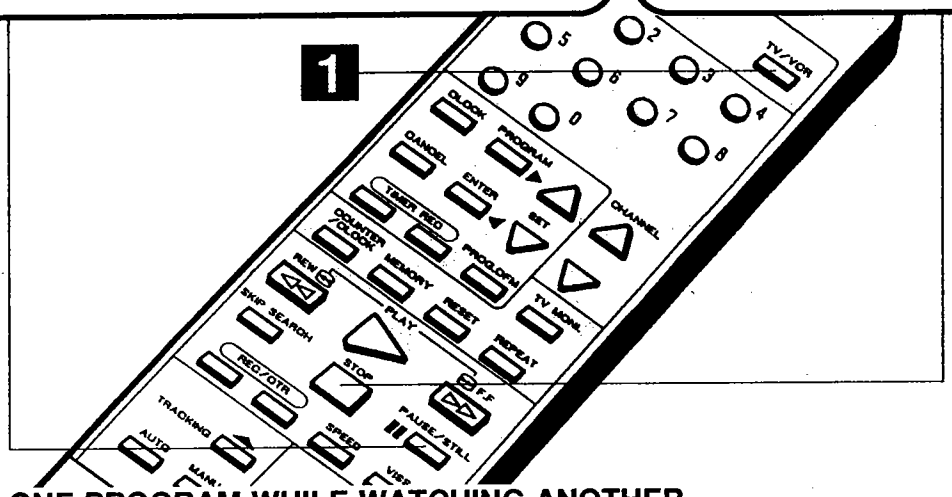


NOTE:
The pause function will be released after 5 minutes to prevent damage to the tape or the VCR. The VCR will then continue recording.

TO STOP RECORDING

Press the STOP button to stop recording.

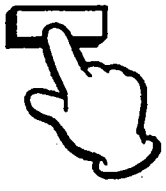
STOP



RECORDING ONE PROGRAM WHILE WATCHING ANOTHER

1 While the VCR is recording, press the TV/VCR selector button to select the TV position. The VCR indicator will go off and recording will continue.

TV/VCR



2 Select the TV channel you want to watch by using the TV channel selector.

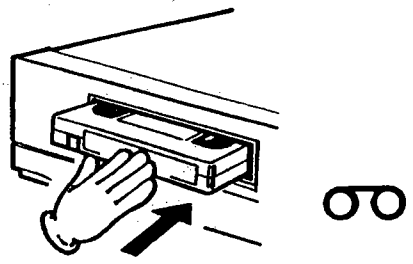
NOTE: Some CATV hookups do not permit viewing one channel while recording another. See pages 17-20.

ONE TOUCH TIMER RECORDING (OTR)

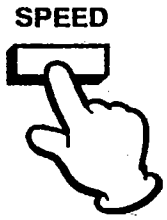
The one-touch timer recording feature provides a simple and convenient way to make a timed recording.

EXAMPLE: One-touch timer recording for 30 minutes.

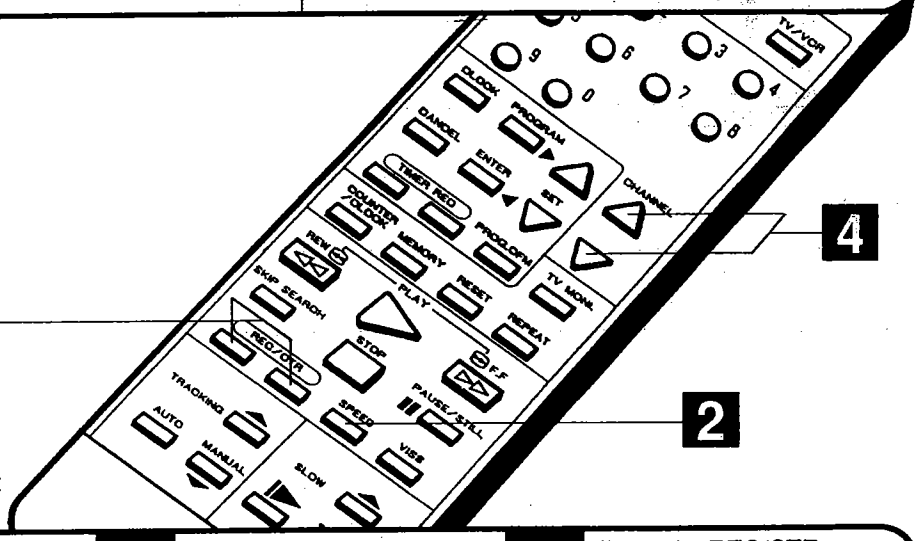
1 Load a cassette tape with the erase prevention tab intact. The VCR will automatically turn on and the TAPE IN indicator will light.



2 Press the TAPE SPEED selector button to select the desired tape speed SP, LP or EP. See page 24 for more information on tape usage.

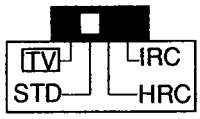


SP, LP or EP will be displayed.

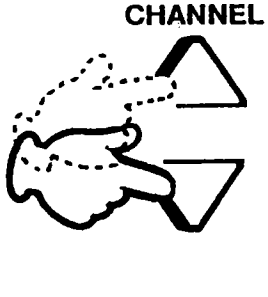


NOTE: ● Before setting the OTR, make sure that the clock shows the present time correctly.

3 Make sure the TV/CATV selector switch is set to the correct position. See page 30 for more information on selector setting.



4 Press the CHANNEL UP (or DOWN) button to select the channel to be recorded.



5 Press the REC/OTR buttons to begin recording. Press the button again to stop recording after 30 minutes. Each additional press of the REC/OTR buttons will increase recording time as shown in the chart below, up to a maximum of 4 hours.

The OTR indicator will light.

NOTE: ● Press the REC/OTR buttons to increase the time needed for recording. (See the chart below.)

Press	once	twice	3 times	4 times	5 times	6 times	7 times	8 times
Recording time	NORMAL REC	0:30	1:00	1:30	2:00	3:00	4:00	NORMAL REC

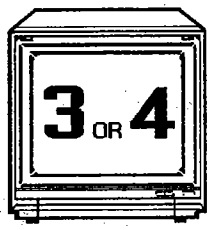
● To cancel OTR, set the OTR recording time to normal recording (present time will be displayed) and press the STOP button or turn off the power.

ON-SCREEN TIMER RECORDING

Timer recording can be programmed on-screen with the remote control. The built-in timer allows automatic unattended recording of up to 4 programs within 28 days.

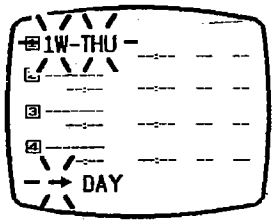
EXAMPLE: Program a timer recording for 1st week, Wednesday, channel 125 (CATV), 11:00-11:30 PM on timer program number 1. (Tape speed: EP)

- Turn on the TV and set to Channel 3 or 4 (see page 22).
- Load a cassette tape with the erase prevention tab intact. The VCR will automatically turn on.
- Press the TV/VCR selector button to select the VCR position.
- Slide the TV/CATV selector switch to the appropriate position.

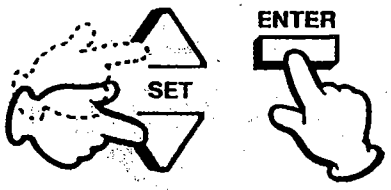


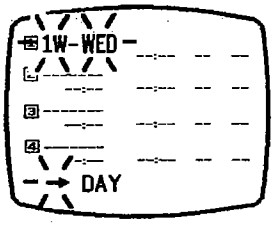
- See page 11 "Remote Control Operation".

1 Press the PROGRAM button.

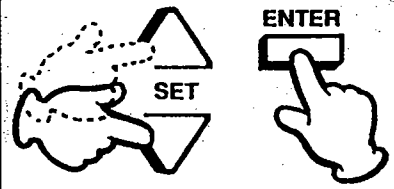


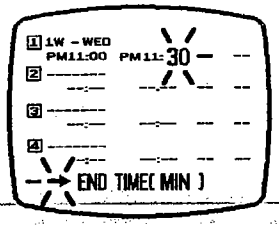
2 Press the SET UP or DOWN button to select the desired day of the week, then press the ENTER button.



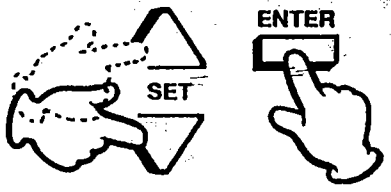


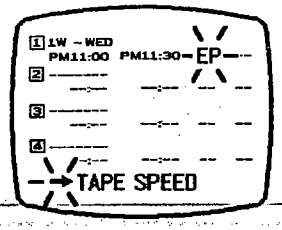
6 Press the SET UP or DOWN button to set the desired ending minute, then press the ENTER button.



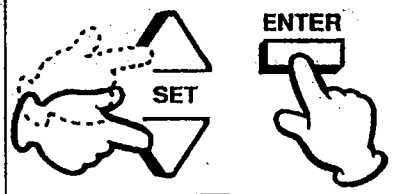


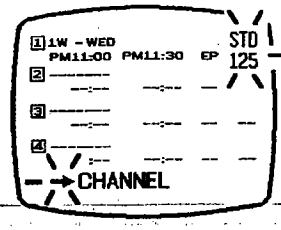
7 Press the SET UP or DOWN button to select the desired tape speed SP, LP or EP, then press the ENTER button. See page 24 for more information on tape usage.





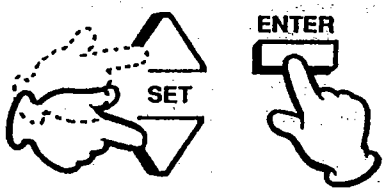
8 Press and ralease the SET UP (or DOWN) button to increase/decrease the desired channel by one.Press and hold the SET UP (or DOWN) button to increase /decrease the desired channel by ten. After setting the channel, press the ENTER button.The clock will begin operation and

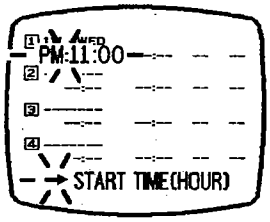




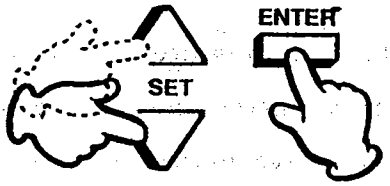
NOTE: POWER FAILURE OR UNPLUGGING THE AC CORD AFTER SETTING TIMER RECORDING.
After a power failure or disconnection of the power plug, all programmed recording settings and time display will be lost and will be shown by the flashing 12:00 time display upon resumption of power. In this case reset the clock (see page 21) and reprogram any timer recordings.

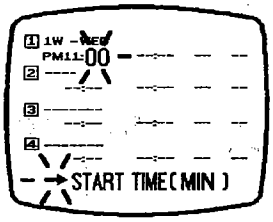
3 Press the SET UP or DOWN button to set the desired starting hour, then press the ENTER button.



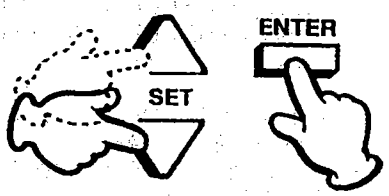


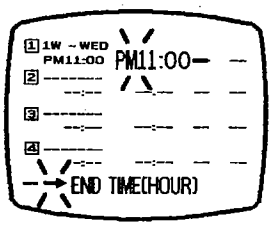
4 Press and ralease the SET UP (or DOWN) button to increase/decrease the desired starting minute by one.Press and hold the SET UP (or DOWN) button to increase / decrease the desired starting minute by ten.
After setting the starting minute, press the ENTER button.





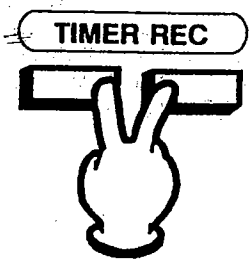
5 Press the SET UP or DOWN button to set the desired ending hour, then press the ENTER button.





9 To set the timer for other programs, press the PROGRAM button repeatedly until the day position of 2nd program blinks, then repeat steps [2]~[8] to set program 2.
Programs 3 & 4 can be set the same way.

10 Press the TIMER REC buttons. The POWER will go off and the TIMER RECORD indicator will light. To cancel timer recording, press the buttons again and the TIMER RECORD indicator will go out.



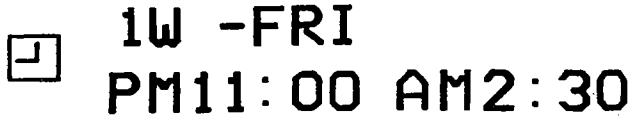
CAUTION: THE VCR CANNOT BE USED WHILE THE TIMER REC INDICATOR IS DISPLAYED.

OTHER FUNCTIONS FOR TIMER RECORDING

TO PRESET THE TIMER RECORDING THROUGH 2 DAYS

Follow the steps as described on pages 33 and 34.

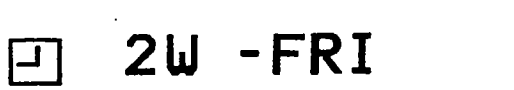
1. Load a cassette tape.
2. Press the PROGRAM button to select a desired program from 1 to 4.
3. Press the SET UP (forward) or DOWN (backward) button to select the day of the week, then press the ENTER button.
   EXAMPLE: From Friday (FR) night to the following day (SA).
4. Press the SET UP or DOWN button to set the desired starting hour, then press the ENTER button.
5. Press the SET UP or DOWN button to set the desired starting minute, then press the ENTER button.
   EXAMPLE: 11:00 PM
6. Press the SET UP or DOWN button to set the desired ending hour, then press the ENTER button.
7. Press the SET UP or DOWN button to set the desired ending minute, then press the ENTER button.
   EXAMPLE: 2:30 AM
8. Press the SET UP or DOWN button to select the desired tape speed SP, LP, or EP, then press the ENTER button.
9. Press the SET UP or DOWN button to select the channel to be recorded, then press the ENTER button.
10. Press the TIMER REC buttons, the power will go off and the TIMER RECORD indicator will light.



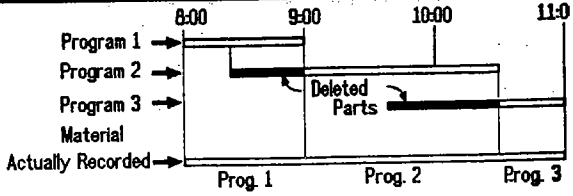
TO PRESET THE TIMER FOR RECORDING ON THE 2ND, 3RD OR 4TH WEEK

Follow the steps as described on pages 33 and 34.

1. Load a cassette tape.
2. Press the PROGRAM button to select a desired program from 1 to 4.
3. Press the SET UP (forward) or DOWN (backward) button to select the desired day of the 2nd week, then press the ENTER button.
   NOTE: The present day is the first day of the first week.
   EXAMPLE: If the present day is Wednesday, to select Friday of the 2nd week, press the SET UP button 7 times to set the 2W indicator on the display.
4. Press the SET UP or DOWN button to set the desired starting hour, then press the ENTER button.
5. Press the SET UP or DOWN button to set the desired starting minute, then press the ENTER button.
6. Press the SET UP or DOWN button to set the desired ending hour, then press the ENTER button.
7. Press the SET UP or DOWN button to set the desired ending minute, then press the ENTER button.
8. Press the SET UP or DOWN button to select the desired tape speed SP, LP, or EP, then press the ENTER button.
9. Press the SET UP or DOWN button to select the channel to be recorded, then press the ENTER button.
10. Press the TIMER REC buttons, the power will go off and the TIMER RECORD indicator will light.



NOTE: Do not overlap programs as portions of the conflicting programs will be lost.
The first recording time has priority over the next recording time as shown in the diagram.



TO PRESET THE TIMER FOR EVERYDAY RECORDING

Follow the steps as described on pages 33 and 34.

1. Load a cassette tape.
2. Press the PROGRAM button to select a desired program from 1 to 4.
3. Press the SET UP (forward) or DOWN (backward) button to select everyday recording. (Monday to Friday, Monday to Saturday or Sunday to Saturday), then press the ENTER button.
4. Press the SET UP or DOWN button to set the desired starting hour, then press the ENTER button.
5. Press the SET UP or DOWN button to set the desired starting minute, then press the ENTER button.
6. Press the SET UP or DOWN button to set the desired ending hour, then press the ENTER button.
7. Press the SET UP or DOWN button to set the desired ending minute, then press the ENTER button.
8. Press the SET UP or DOWN button to select the desired tape speed SP, LP, or EP, then press the ENTER button.
9. Press the SET UP or DOWN button to select the channel to be recorded, then press the ENTER button.
10. Press the TIMER REC buttons, the power will go off and the TIMER RECORD indicator will light.

TO PRESET THE TIMER FOR EVERY WEEK RECORDING

Follow the steps as described on pages 33 and 34.

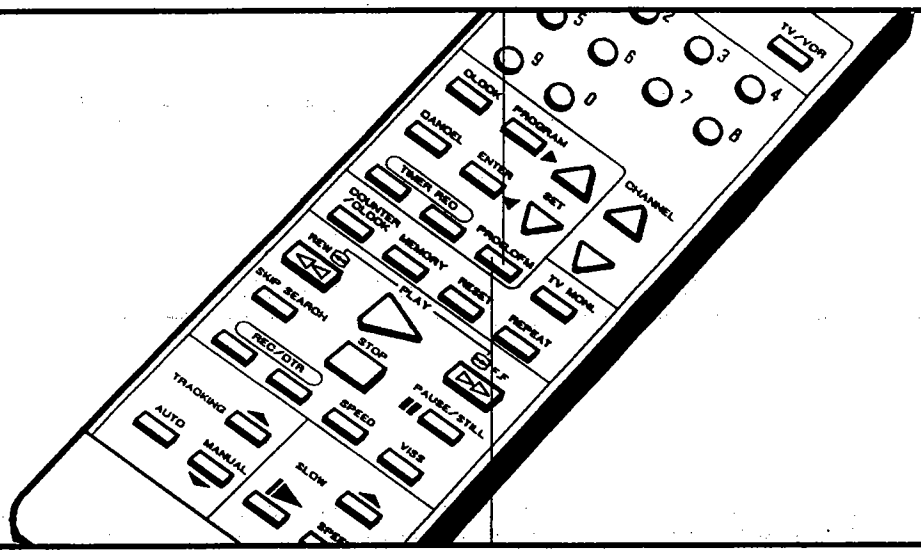
1. Load a cassette tape.
2. Press the PROGRAM button to select a desired program from 1 to 4.
3. Press the SET UP or DOWN button until "WKL" is displayed and select the desired day of the week, then press the ENTER button.
4. Press the SET UP or DOWN button to set the desired starting hour, then press the ENTER button.
5. Press the SET UP or DOWN button to set the desired starting minute, then press the ENTER button.
6. Press the SET UP or DOWN button to set the desired ending hour, then press the ENTER button.
7. Press the SET UP or DOWN button to set the desired ending minute, then press the ENTER button.
8. Press the SET UP or DOWN button to select the desired tape speed SP, LP, or EP, then press the ENTER button.
9. Press the SET UP or DOWN button to select the channel to be recorded, then press the ENTER button.
10. Press the TIMER REC buttons, the power will go off and the TIMER RECORD indicator will light.

NOTE: ● The everyday/week recording can be made continuously until the recording is cancelled or the tape reaches the end.
● During timer recording, the automatic rewinding mechanism does not function.

TO CONFIRM TIMER RECORDINGS

Press the PROG. CFM button. The TV screen will show the timer recording settings.

PROG.CFM



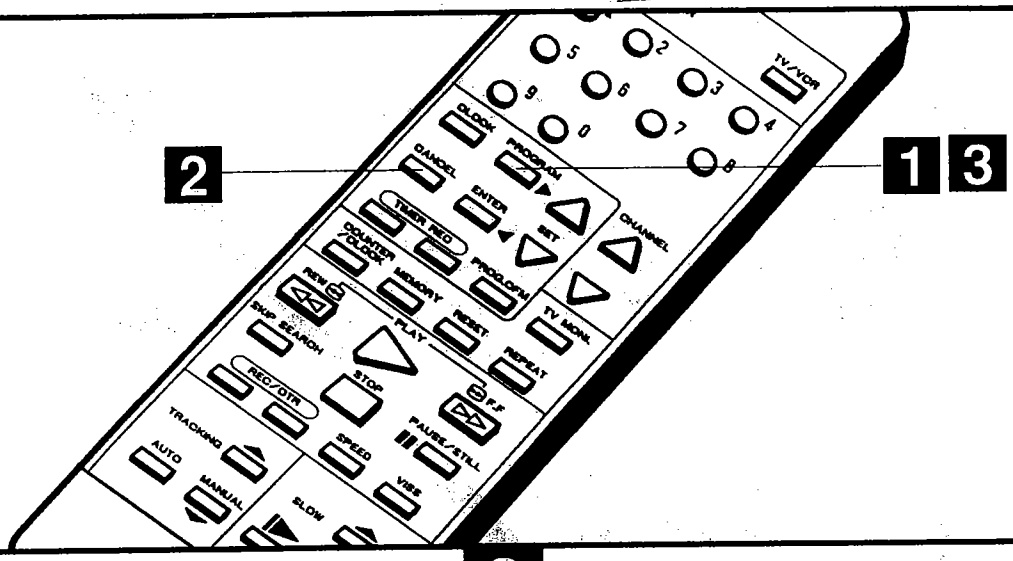
Press the PROG. CFM button again to return to normal operation.

PROG.CFM

TO CANCEL TIMER RECORDINGS

1 Press the PROGRAM button to select the program number to be cancelled.

PROGRAM



2 Press the CANCEL button. The preset time of the program selected will be erased.

CANCEL

3 Press the PROGRAM button. The VCR will return to normal operation.

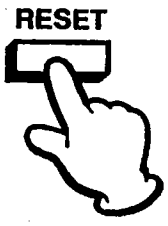
PROGRAM

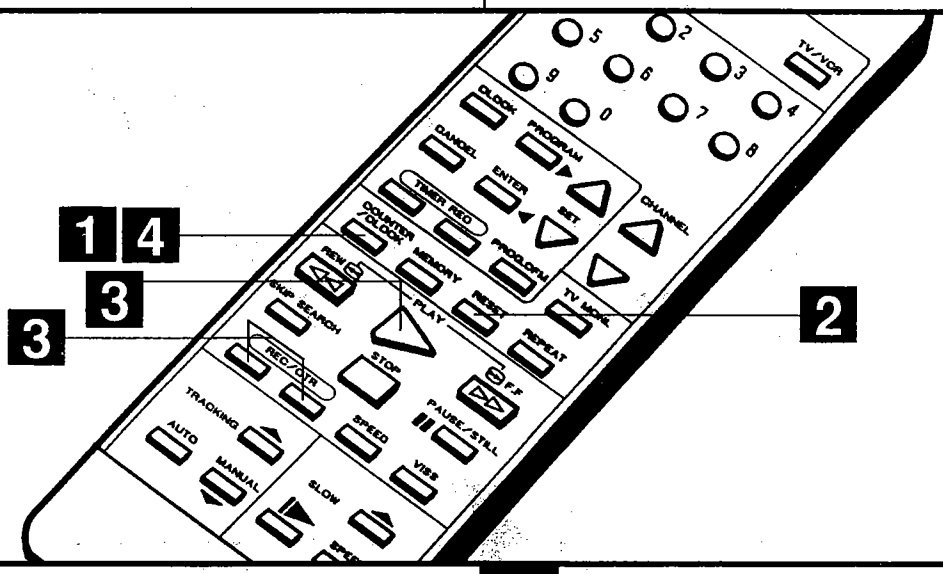
USING THE LINEAR TIME TAPE COUNTER

The counter display shows the tape running time during playback or recording. You can find how much time has passed easily.

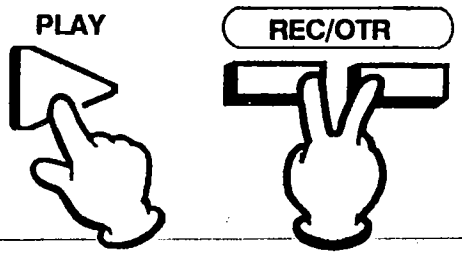
1 Press the COUNTER/CLOCK selector button once to display the counter.

2 Press the RESET button to set the counter to "0:00:00".





3 Press the PLAY or REC/OTR buttons to start the tape, the counter will display the passed time.



4 When you wish to change to the clock display, press the COUNTER/CLOCK selector button once again.

NOTE:
- If you rewind the tape from "0:00:00", a minus sign ("—") will be displayed in front of the time.
- When you load a tape, the counter will change to "0:00:00".
- The counter does not function on nonrecorded (blank) sections of the tape. When you rewind, fast forward or play tapes through blank sections, the counter stops.
- The counter will change to the clock display when you turn off the power.

USING THE COUNTER MEMORY DISPLAY

The memory function provides a convenient method of rapidly returning to the starting point of recording or playback. The starting point can be indexed for any location on the tape by pressing the RESET button and MEMORY button.

1 Press the COUNTER/ CLOCK selector button once.

COUNTER /CLOCK

1:50:30

2 Before playback or recording, press the RESET button to set the counter to "0:00:00".

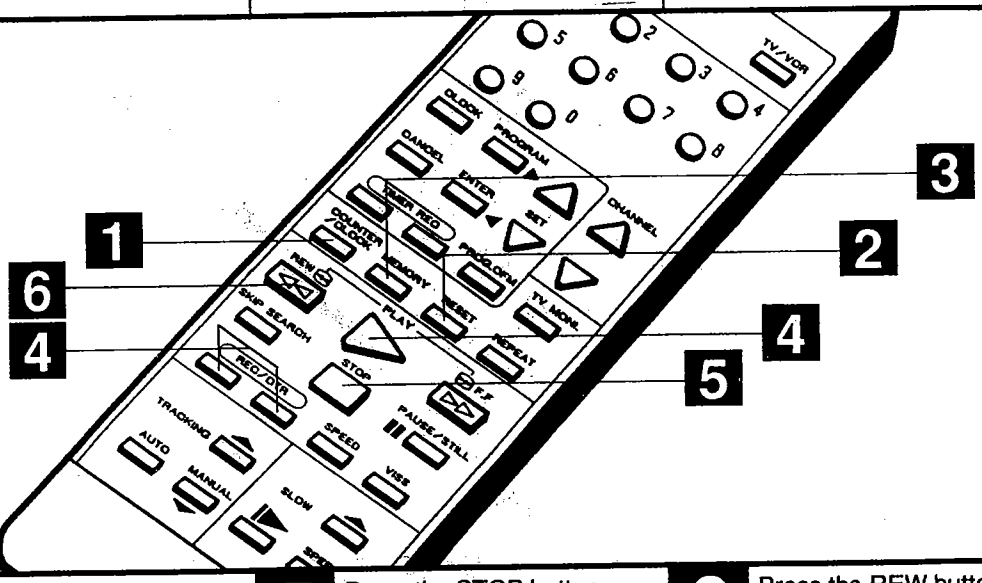
RESET

0:00:00

3 Press the MEMORY button. The M (Memory) indicator will light.

MEMORY

M



4 Begin playback or recording.

PLAY

REC/OTR

5 Press the STOP button when playback or recording is finished.

STOP

6 Press the REW button. The tape will rewind and automatically stop at the "0:00:00" position.

REW

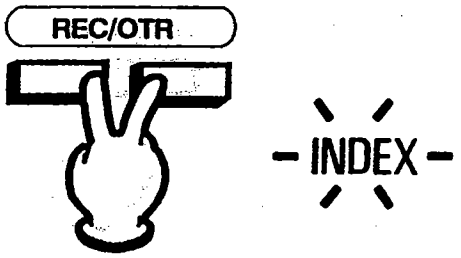
0:00:00

VIDEO INDEX SEARCH SYSTEM (VISS®)-RECORDING OF INDEX MARKS

The VIDEO INDEX SEARCH SYSTEM (VISS®) enables you to locate the beginning of any recording made on this VCR. Whenever a recording is begun or when the VCR channel is changed in the RECORD PAUSE mode, an invisible INDEX mark is recorded on the tape. This mark can easily be located by using the F.F and REW buttons.

AUTOMATIC RECORDING OF THE INDEX MARK

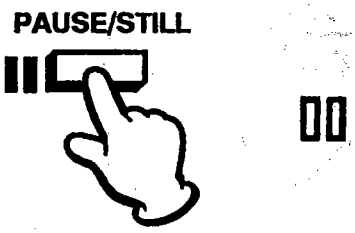
Press the REC/OTR buttons. The INDEX indicator will flash for a few seconds and the INDEX mark will be recorded.

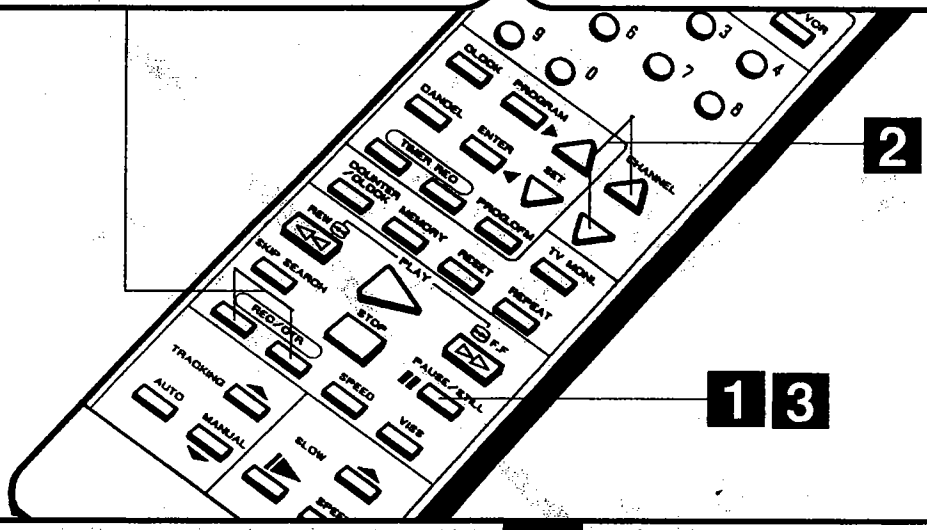


NOTE: An INDEX mark will also be recorded at the beginning of Timer Recording and OTR.

AUTOMATIC RECORDING OF THE INDEX MARK WHEN CHANGING CHANNELS

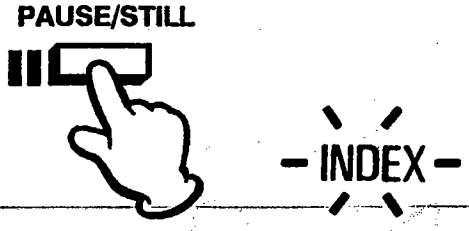
1 While recording, press the PAUSE/STILL button to temporarily stop the recording.





2 Select a channel of the VCR. The INDEX indicator will be displayed.

3 Press the PAUSE/STILL button again to resume recording. The INDEX indicator will flash for a few seconds and the INDEX mark will be recorded on the tape where the channel was changed.

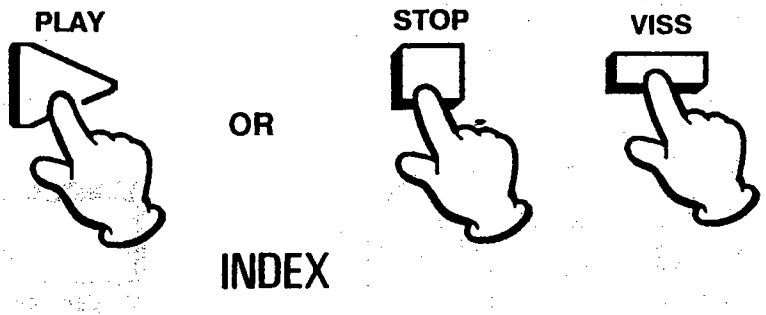


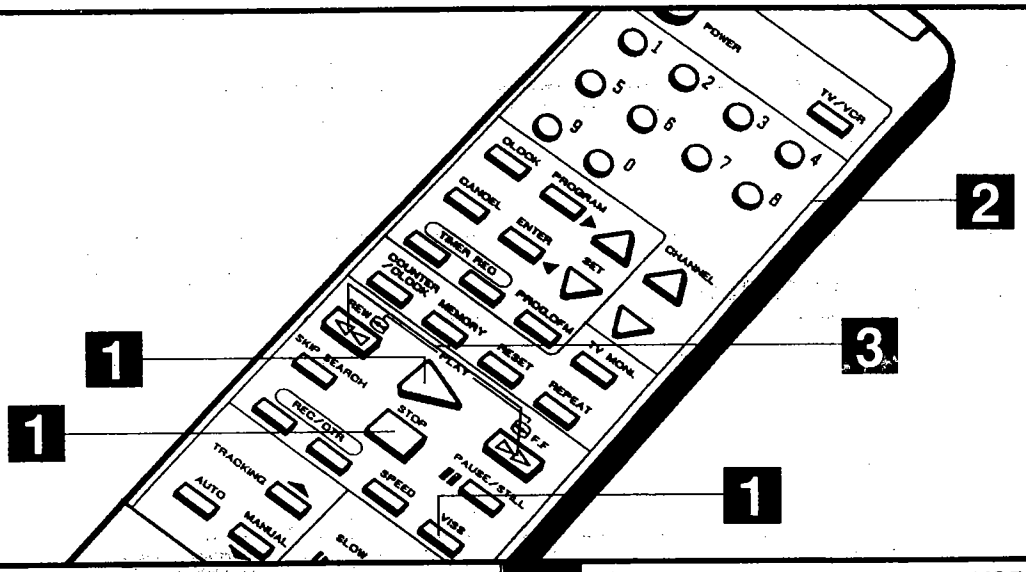
NOTE: When dubbing a tape from another source (using the AUDIO/VIDEO IN jacks) the INDEX marks can be recorded by following these steps even though the program is being recorded from the AUDIO/VIDEO IN jacks and not the channel number selected.

VIDEO INDEX SEARCH SYSTEM (VISS®)-LOCATING INDEX MARKS

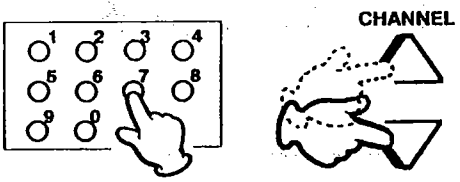
SEARCHING FOR AN INDEX MARK

1 To skip over a selected number of INDEX marks, press the PLAY or STOP button, then press the VISS button. The INDEX indicator will light.



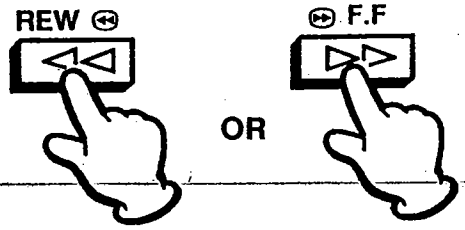


2 Select the number of INDEX marks to be skipped (up to 99) with the Channel Number keys (0-9) or the CHANNEL UP or DOWN button.



Example: The tape has four separate recorded programs. Select 04 to go to the beginning of the 4th program (4th INDEX mark).

3 Press the F.F or REW button. The VCR will skip over the selected number of INDEX marks, the INDEX indicator will disappear and the VCR will resume normal playback at the selected mark.



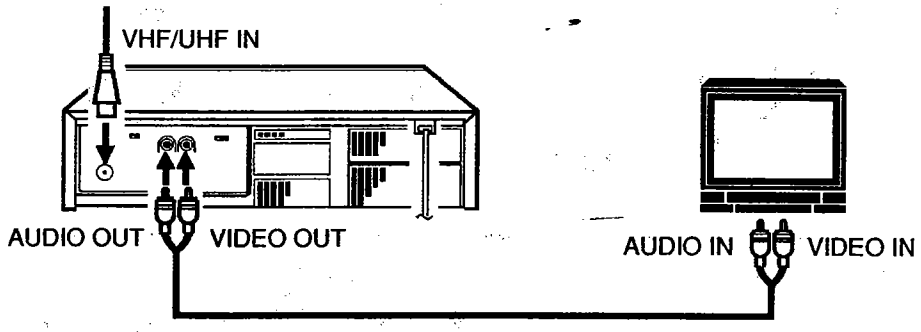
NOTE:
- When you record an INDEX mark at the very beginning of the tape, the mark may not be found.
- During INDEX search, the tape may stop and begin to play at a slightly different location.
- VISS® may not function properly with old or worn out video tapes.

CONNECTIONS TO OTHER EQUIPMENT

The rear panel AUDIO/VIDEO IN and OUT jacks can be used for connection to other units.

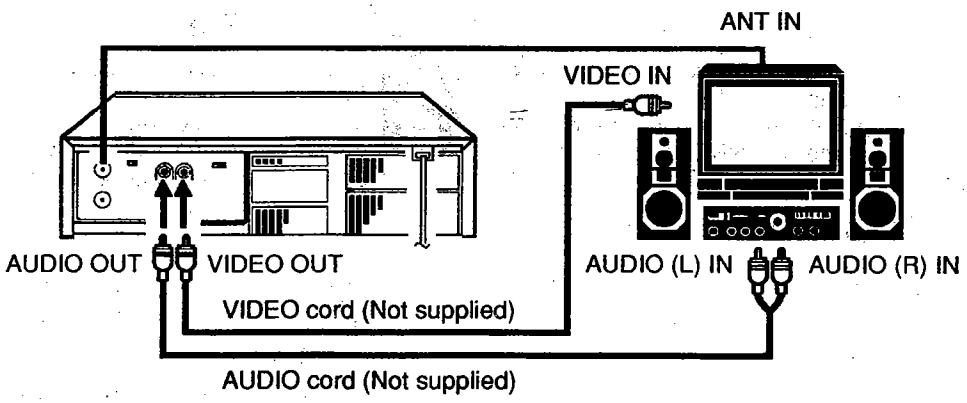
CONNECTION TO AUDIO/VIDEO JACKS

The standard connections are described on page 13. If however, your TV has AUDIO/VIDEO jacks and you connect them to the VCR as shown below, you will receive better quality pictures and sound. In this case, set the input select switch on the TV to the video position. (No need to set the TV/VCR selector button on the remote control to VCR position.)



CONNECTION TO A STEREO

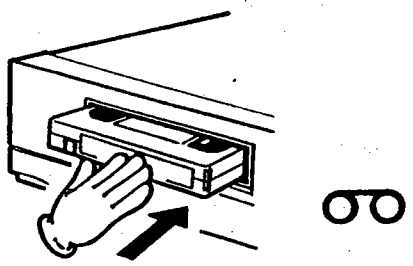
The sound from the AUDIO OUT jack can be played through a stereo amplifier with auxiliary input jacks.
NOTE: The sound will be monaural.



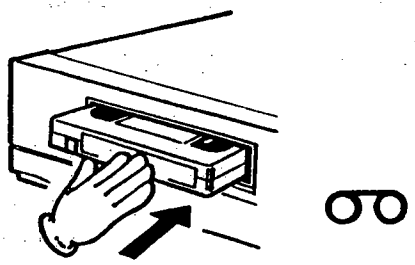
DUPLICATING A VIDEO TAPE

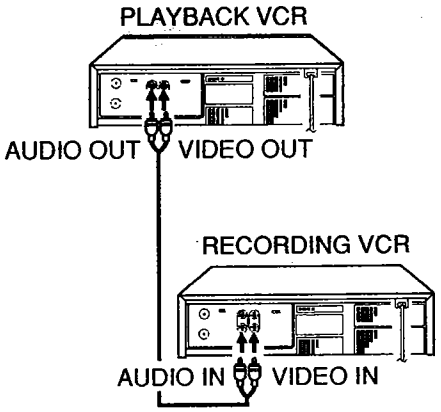
If you connect the VCR to another VCR or camcorder, you can duplicate a previously recorded tape. Make all connections before turning on the power.

1 Load a blank cassette tape with the erase prevention tab intact into the recording VCR.

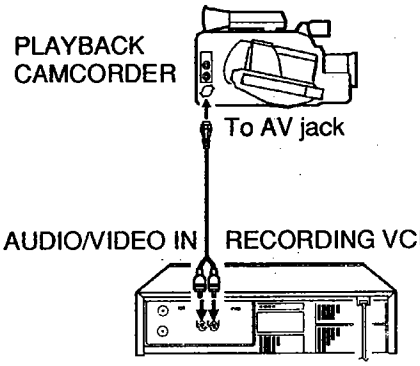


2 Load a previously recorded tape into the playback VCR or CAMCORDER.



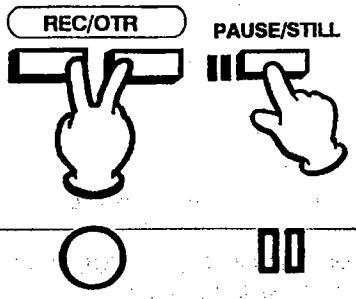


AUDIO/VIDEO Cord (Not supplied)

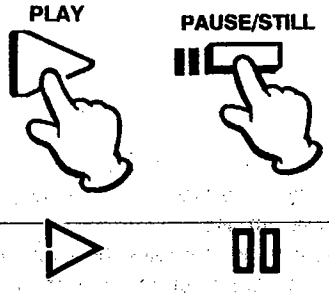


For duplicating a previously recorded tape from a camcorder, follow the camcorder manufacturer's instructions. A typical camcorder dubbing hookup is shown above.

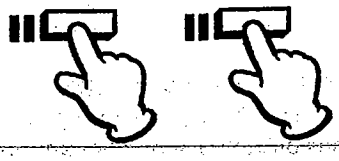
3 Press the REC/OTR button on the recording VCR, then press the PAUSE/STILL button.



4 Press the PLAY button on the playback VCR, then press the PAUSE/STILL button.



5 Press the PAUSE/STILL button on both the VCRs simultaneously to begin the duplicating process.



NOTE:
- It is recommended you set the TAPE SPEED to the SP mode on the recording VCR for best results.
- After duplicating, disconnect the cables from the AUDIO/VIDEO IN jacks. If the cable remains plugged into the AUDIO and VIDEO IN jacks, you will not be able to record TV programs.
- Unauthorized recording of copyrighted television programs, films, video tapes and other materials may infringe on the rights of copyright owners and be contrary to copyright laws.

VIDEO GLOSSARY

This video glossary is provided to help you become familiar with video terms, equipment and accessories you may encounter or require in the future.

A/B SWITCH - A device that allows you to select from two video sources for output to your VCR or TV.(Not included)

A/B SWITCH

ANTENNA ADAPTER or ANTENNA MATCHING UNIT - See matching transformer.

BALUN - See matching transformer.

BANDS - Groups of TV channels which fall within certain frequencies.
All the channels your TV/VCR receives can be tuned on one of three bands:

V_L - VHF channels 2~6 and cable 5A~A-3
V_H - VHF channels 7~13 and cable A-2~A-1, A-I, J~W and AA~FFF
U - UHF channels 14~69 and cable GGG~125

CATV - Cable TV, a method of transmitting TV signals through cable. This usually involves a monthly service charge. CATV is usually transmitted by one of three systems: HRC, IRC or STD.

COAXIAL CABLE (75 ohm) - A special type of round wire used for antenna or cable systems, or for connecting a VCR to a TV.

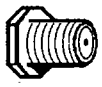
COAXIAL CABLE WITH THREADED F CONNECTOR

COMBINER (or COUPLER) - A device used to combine two or more incoming antenna wires or cables into a single output (not included).

CONVERTER BOX/DESCRAMBLER - A device supplied by cable companies for receiving or descrambling cable signals. Often used for TV sets that cannot receive cable channels, or when pay stations are desired by the customer.(Not included)

A CONVERTER/ DESCRAMBLER

DIGITAL - Special circuitry using microchips to store images enables a VCR to perform viewing effects like strobe, and high quality still picture.
DIGITAL AUTO TRACKING - Automatically adjusts the playback tracking for the best possible picture.
DUBBING - A method of recording from one video cassette tape to another by connecting a VCR with another VCR, VCP or camcorder.
FRAME BY FRAME ADVANCE - Enables the tape to advance one frame at a time in the STILL mode.
FS TUNER - A quartz-locked, frequency synthesized tuning system that electronically locks in stations for optimal reception. Eliminates the need for presetting channels into the TV/VCR.
F-TYPE CONNECTOR JACK - A threaded input jack designed to accept coaxial cable (75 ohm) using either a 'push-on' or 'screw-on' F connector.

F CONNECTOR JACK 

FULL LOADING TAPE TRANSPORT - Keeps video cassette tape fully loaded in VCR for rapid access between modes.
HEAD MAINTENANCE INDICATOR - Flashes when the video heads require cleaning.
H.Q. - High Quality picture. Special circuitry designed to improve VHS picture quality. Includes 'white clip expansion' and one or more additional special circuits.
LINEAR TIME COUNTER - A real-time counter that displays the elapsed time during recording or playback in hours, minutes and seconds. The counter does not function on nonrecorded (blank) sections of tape.
MATCHING TRANSFORMER - An adapter used to convert 75 ohm cable to 300 ohm twin lead wire, or 300 ohm to 75 ohm.

2 TYPES OF MATCHING TRANSFORMERS

MTS - Multi channel TV Sound. A stereo broadcast sound system used for transmitting stereo sound signals on TV, usually broadcast with another channel (SAP).

PRESET - A method of programming channels and channel numbers into the memory of the VCR.

PUSH ON CONNECTOR - Made to fit over an F connector jack without threading. Many matching transformers use push on connectors.

REPEAT - A VCR feature which allows a tape to be viewed over and over by automatically rewinding and replaying the tape.

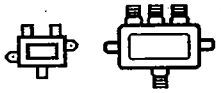
RF CONVERTER - A device built into VCRs and converter/descramblers which converts all signals into the video channel (either 3 or 4) for viewing on a TV.

SAP-SEPARATE AUDIO PROGRAM - A third audio channel under the MTS system frequently used for bilingual broadcasts.

SKIP SEARCH - A feature which automatically switches the VCR from playback to forward search mode for a brief period of time and then resumes normal playback. Useful for skipping over unwanted commercials etc. when playing a tape.

SPECIAL EFFECTS - Picture features available on some VCRs such as still frame, and picture search.

SPLITTER - A device used to divide an incoming antenna wire or coaxial cable into two or more wires or cables. (Not included).

TWO TYPES OF SPLITTERS 

STROBE PLAYBACK - A special digital playback feature in which still frames are displayed in rapid succession for a strobe effect.

TWIN LEAD WIRE (300 ohm) - A two conductor flat wire used for connecting an antenna to a TV set or VCR.

TWIN LEAD WIRE WITH TERMINALS

UHF - Ultra High Frequency. The band of frequencies used for UHF channels 14-69. (Cable companies sometimes transmit UHF channels on other bands.)

VARIABLE SPEED SLOW MOTION - Enables the tape to be played back in slow motion at 1/5 - 1/30 of normal speed.

VCP - Video cassette player. A device which can play video cassettes but cannot record.

VCR - Video cassette recorder. A device that can record and playback video cassettes.

VHF - Very High Frequency. The band of frequencies used to transmit VHF channels 2-13. Also used by cable companies to transmit their own channels.

VHS-C - A popular video cassette format used in many video camcorders. VHS-C cassettes can be loaded into a video cassette adapter which makes the tape fully compatible with the standard VHS format.

VHS - Video Home System. The video tape format most commonly used in the U.S.

VHS HI-FI - A superior method of recording stereo audio signals on video tape, resulting in very high quality audio recording.

VIDEO CHANNEL - The TV broadcast channel (usually 3 or 4) used to output signals from a VCR or cable box.

VIDEO INPUTS/OUTPUTS - RCA type jacks in back of the VCR used for dubbing or providing audio or video signals from other sources.

INPUT/OUTPUT JACKS

VISS® (VIDEO INDEX SEARCH SYSTEM) - A system of recording INDEX reference marks on the video tape. These marks can then be located by using the REW/Rev Search and F.F/Fwd.Search buttons.

BEFORE REQUESTING SERVICE

Make sure by first checking the following points.

SYMPTOMS	CAUSES	POSSIBLE SOLUTIONS	PAGE
POWER			
No power	The AC power cord is not connected	Connect the AC power cord to the AC outlet.	—
Although the power is on, unit does not operate.	Cassette is not inserted.	Insert a video cassette.	23
TV BROADCAST RECEPTION			
A TV program that is selected by the VCR does not appear on the screen.	Antenna connection is not correct.	Connect it correctly	13
	Antenna cable is disconnected.	Reconnect the antenna cable.	13
	The Video channel is not in the correct position.	Set it to CH 3 or 4.	22
	The TV is not set to the Video channel 3 or 4.	Set the TV channel selector to the 3 or 4 position.	22
	The TV /VCR selector is set at TV mode. (The VCR indicator is not on the display.)	Press the TV/VCR selector button. (The VCR indicator is on the display.)	22
	VIDEO/AUDIO in cables are connected to the VCR.	Remove cables.	30
A TV program selected by the VCR does not appear in color.	The TV/CATV selector switch setting.	Set the TV/CATV selector switch to another cable mode setting.	30
RECORDING			
TV recording does not work.	The erase prevention tab of the video cassette is broken off.	Place a piece of vinyl tape over the gap.	24
	VIDEO/AUDIO in cables are connected to the VCR.	Remove cables.	30
One touch timer recording does not work.	The clock is not set.	Set the present time.	21
Timer recording does not work.	The time is not set correctly.	Reset the present time.	21
	The recording start/end time is not set correctly.	Reset the start/end time.	33/34
	The TIMER REC buttons have not been pressed (The TIMER REC symbol ⏺ is not lit on the display.)	Press the TIMER REC buttons. (The TIMER REC symbol ⏺ is on the display.)	34

SYMPTOMS	CAUSES	POSSIBLE SOLUTIONS	PAGE
PLAYBACK			
No picture on screen when playing back a recorded tape.	The TV is not set to the video channel 3 or 4.	Set to the video channel 3 or 4 or adjust the fine tuning button on your TV set.	32
Noise bars on screen.	Tracking adjustment beyond range of automatic tracking circuit.	Adjust tracking manually using the TRACKING UP and DOWN buttons on remote control.	36
	Video heads are dirty.	Have the video heads cleaned.	49
	The tape is worn or damaged.	Try another tape.	—
Cannot locate VISS®marks.	Tape is worn or damaged.	Try another tape.	42
H is flashing.	The Video heads are dirty.	Clean the video heads.	49
REMOTE CONTROL			
Remote control does not work.	It is not aimed at the remote sensor.	Aim it at the remote sensor.	12
	Distance too far or too much light in the room.	Operate within 7 meters (23 feet); reduce the light of the room.	12
	There is an obstacle in the path of the beam.	Clear the path of the beam.	12
	The batteries are weak.	Replace the batteries.	12
	The +, − polarity of the batteries are not inserted correctly.	Install correctly.	12
TV programs cannot be seen using the TV selector.	The TV/VCR function is in the VCR mode.	Set to TV, or turn off the VCR power switch.	31

Emerson®
AUTHORIZED SERVICE

TO FIND THE LOCATION AND PHONE NUMBER OF YOUR NEAREST AUTHORIZED SERVICE CENTER...

CALL TOLL FREE: 1-800-695-0098

FOR ADDITIONAL SET-UP OR OPERATING ASSISTANCE PLEASE CALL:
1-800-388-8333

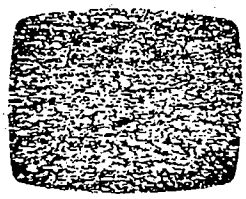
FOR CUSTOMER SERVICE PLEASE CALL OR WRITE TO:
Emerson Radio Corp.
State Highway 41 and County Road, 100 W.
Princeton, Indiana 47670
1-812-386-3200

VIDEO HEAD CLEANING

VIDEO HEAD CLOGGING

The video heads are the means by which the VCR reads pictures from the tape during playback. In the unlikely event that the heads become dirty enough to be clogged, the H (Head Maintenance Indicator) will flash and/or no picture will be played back. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, have the video cassette recorder checked by qualified service personnel.

Good Picture



Snowy Picture

VIDEO HEAD CLEANING

Video head cleaning is needed when the H (Head Maintenance Indicator) flashes for 5 seconds, then stays lit for 10 seconds and/or the playback picture becomes unclear. The Head Maintenance Indicator signifies that the heads are getting dirty and can occur when playing poor quality or damaged tapes. If the heads require cleaning, use an Emerson or equivalent high quality chemical non-abrasive (wet) head cleaning tape or have them cleaned professionally. If playing a head cleaning tape in the VCR once does not improve the picture, play it several times before requesting service.

- DO NOT ATTEMPT TO CLEAN THE VIDEO HEADS OR SERVICE THE UNIT BY REMOVING THE TOP COVER.
- Video heads may eventually wear out and should be replaced when they fail to produce clear pictures.
- To help prevent video head clogging, use only good quality VHS tapes. Discard worn out tapes.

SPECIFICATIONS

Record/Playback System:	4-Head record/playback system
Audio Track:	1 Track
Power Source:	120V, 60Hz
Power Consumption:	Approx. 27 watts
Tuner:	181 Channel Freq. Synthesized VHF 2-13 UHF 14-69 CATV 14-36 (A)-(W) 37-59 (AA)-(WW) 60-85 (AAA)-(ZZZ) 86-94 (86)-(94) 95-99 (A-5)-(A-1) 100-125 (100)-(125) 01 (5A)
RF Channel Output:	Channel 3 or 4, Switchable
Remote Control:	Infrared, wireless 44 key
Inputs/Outputs:	Video In (RCA) 1Vp-p 75 ohm Out (RCA) 1Vp-p 75 ohm Audio: In (RCA) -8dB/50K ohm Out (RCA) -6dB/1K ohm Antenna: VHF/UHF IN 75 ohm coaxial VHF/UHF OUT 75 ohm coaxial
F.F/REW Time: (T-120 Tape)	Less than 5 minutes
Speed Search:	SP-5 & 7×Normal Speed LP-7 & 13×Normal Speed EP-9 & 21×Normal Speed
Dimensions:	14-3/16"W×3-3/8"H×13-1/4"D
Weight:	11 lbs

Specifications are subject to change without notice.

EMERSON RADIO CORP.

For future reference use the space provided for recording the serial number of your new product
The serial number label is located on the rear panel.

EMERSON
PART NO. 70-6331
302-01

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